



Japanese Aging Society and Growth Strategies

*~ Perspectives on Demography, Working Population and Regional Economy In
Relation To Sustainable Growth of the Overall Japanese Economy ~*

June 3, 2014

Industrial Growth Platform, Inc. (IGPI)

Kazuhiko Toyama CEO

Table of Content

1. Japanese Aging Society

Demographic Perspective: Divide Between Elder and Young

2. Japanese Working Age Population

Labor Productivity Perspective: Divide Between Earners and Retirees

3. Global and Local Economic Spheres in Japan

Economic Perspective: Divide Between Metropolitan & Global and Rural & Local Economic Spheres

APPENDIX

1. Japanese Aging Society

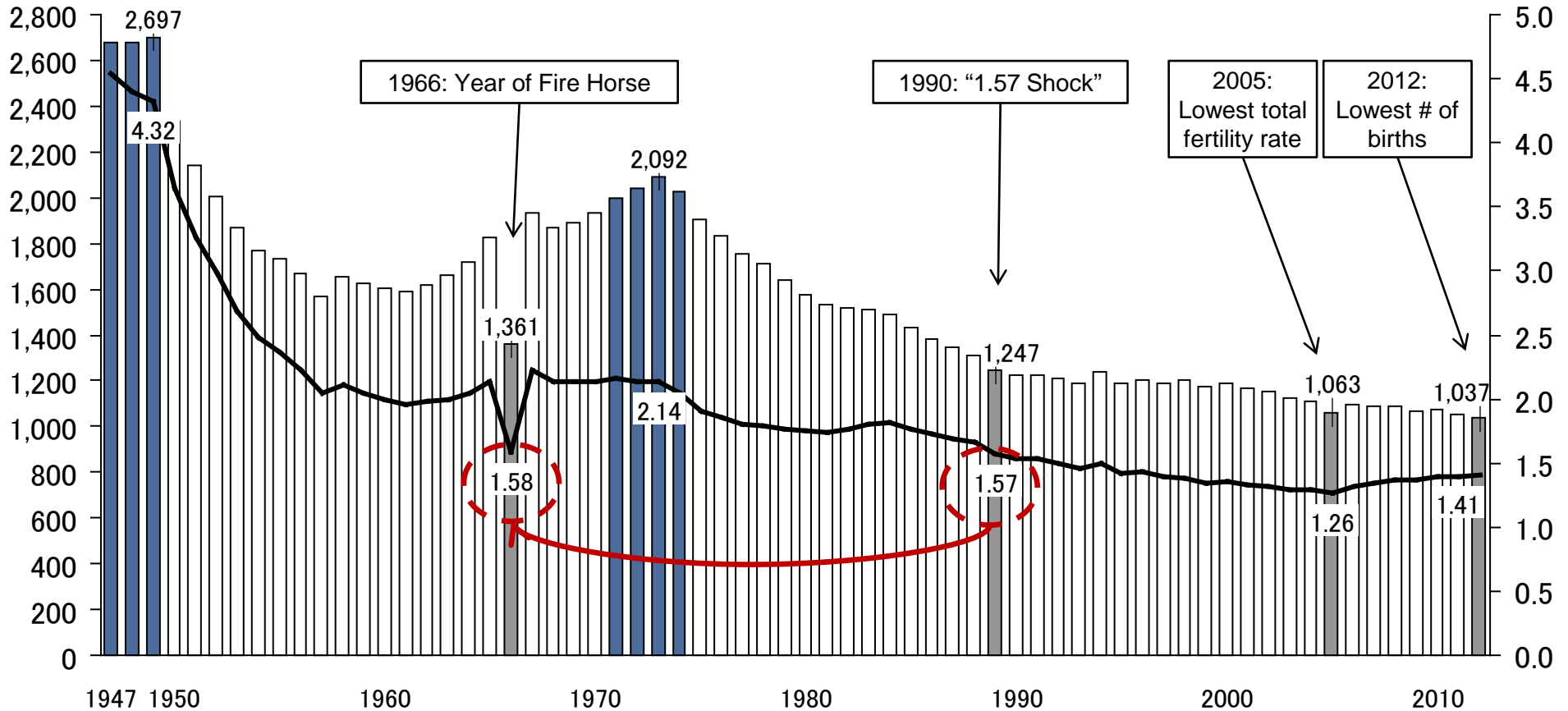
~ Divide Between Elder and Young ~

Japan's Declining Population (Long-Term Perspective 1947 - 2012)

◆ Number of Births (Left axis, In thousands) and Total Fertility Rate Trend (Right axis, %)

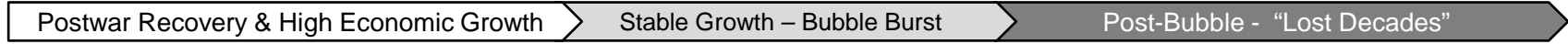
1947-49 1st Wave of Baby Boomers (1949 figures highlighted)

1971-74 2nd Wave of Baby Boomers (1973 figures highlighted)



Japan's Population Pyramid Reversed With the Decelerating Economic Growth

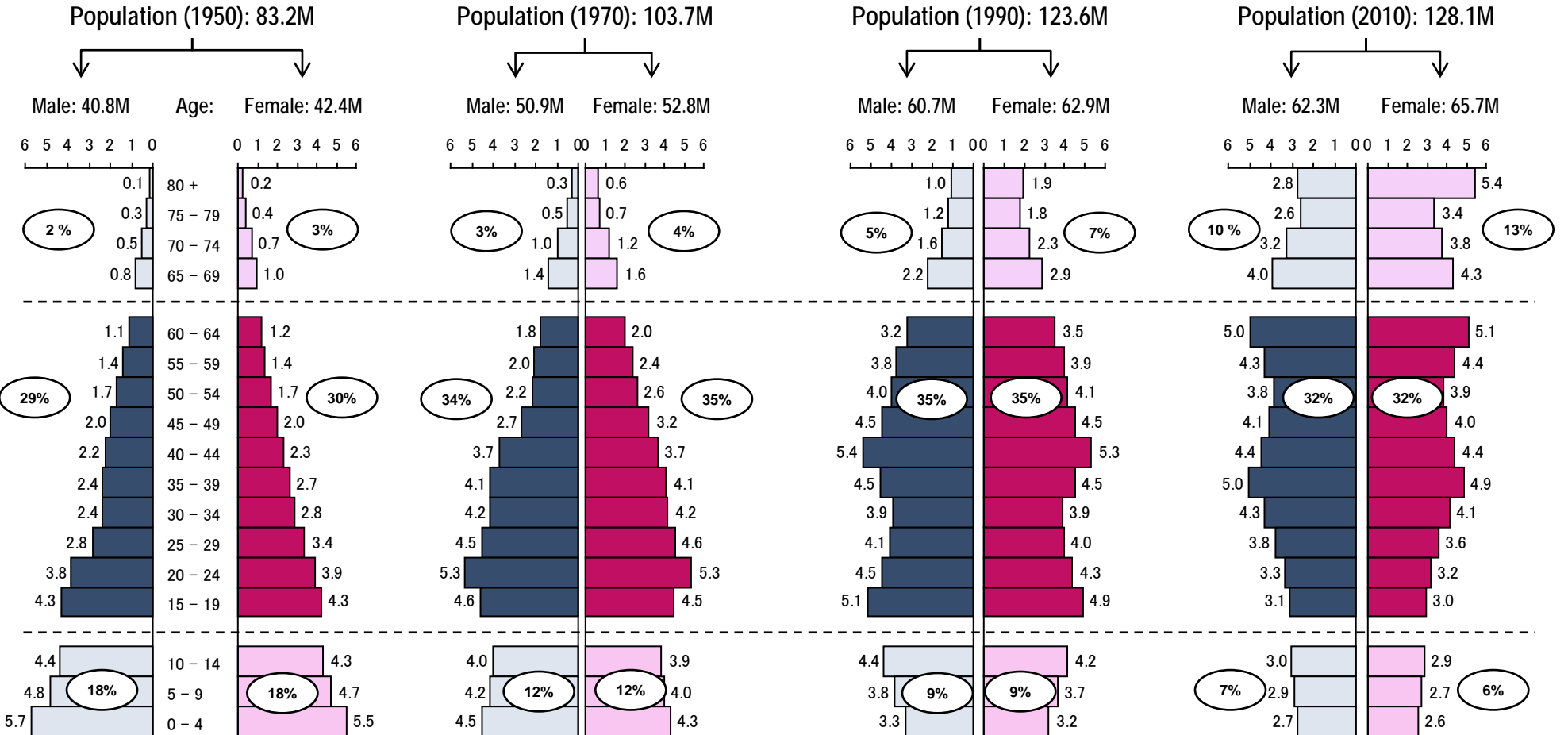
◆ Productive labor force (15 to 64) has undergone a rollercoaster shift from historical surplus → past sufficiency → recent lack.



1960 - 70 GDP (10 Yr CAGR): 9.2%
Population (20 Yr CAGR): 1.1%

1970 - 90 GDP (20 Yr CAGR): 4.5%
Population (20 Yr CAGR): 0.9%

1990 - 2010 GDP (20 Yr CAGR): 0.9%
Population (20 Yr CAGR): 0.2%

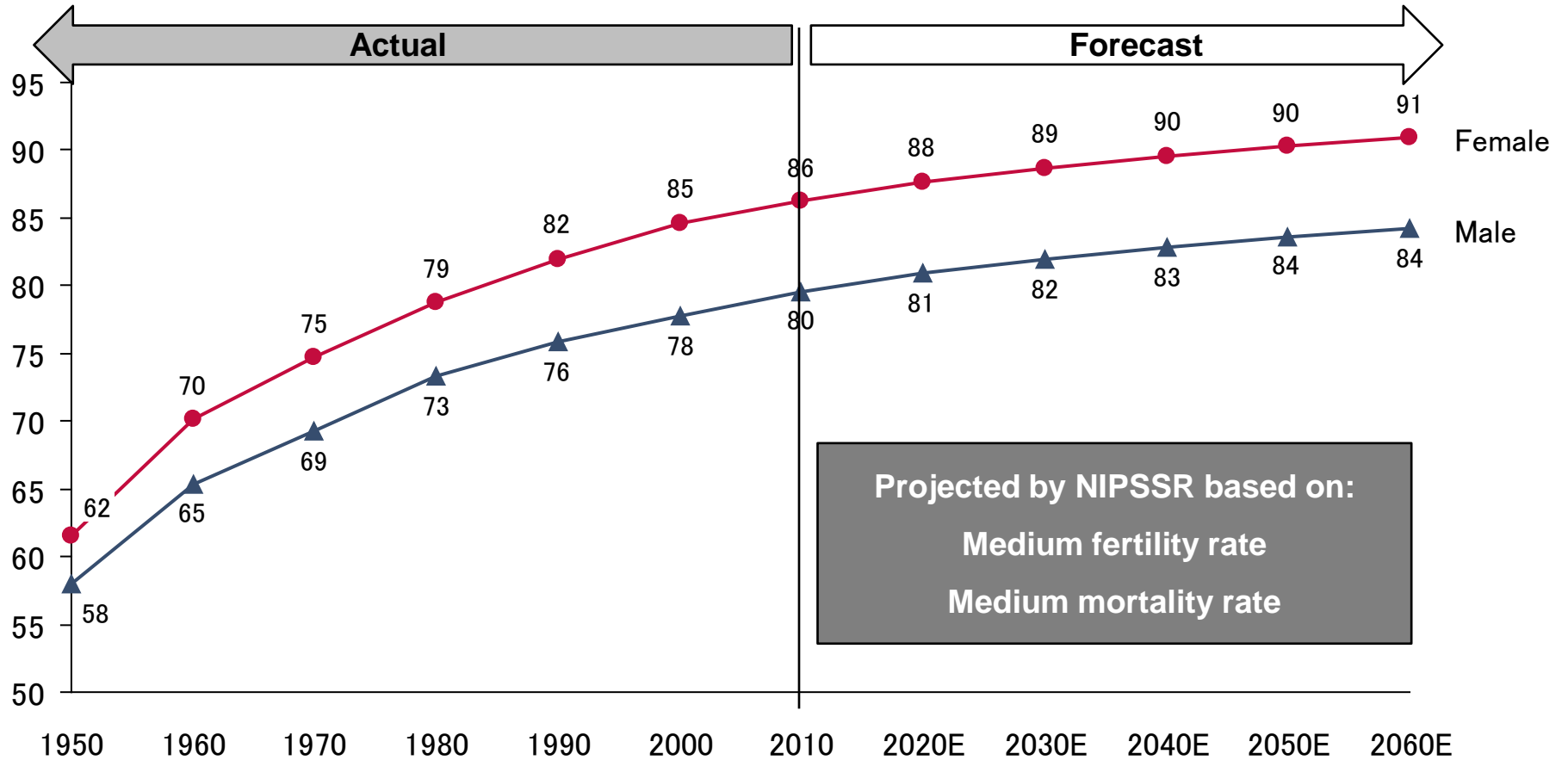


Note (*): Above graphs show male / female composition in Millions of people units. GDP CAGR calculated based on World Bank available dataset from 1960 to 2010

Source: Statistic Bureau, Ministry of Internal Affairs and Communications, World Bank GDP data (2005 constant USD base)

Trend of Japanese Average Life Span and Future Projections

- ◆ Forecasts shows that average life span of Japanese people (both male and female) is to continue increasing and therefore further gradually increasing population of 65 and over in the future.

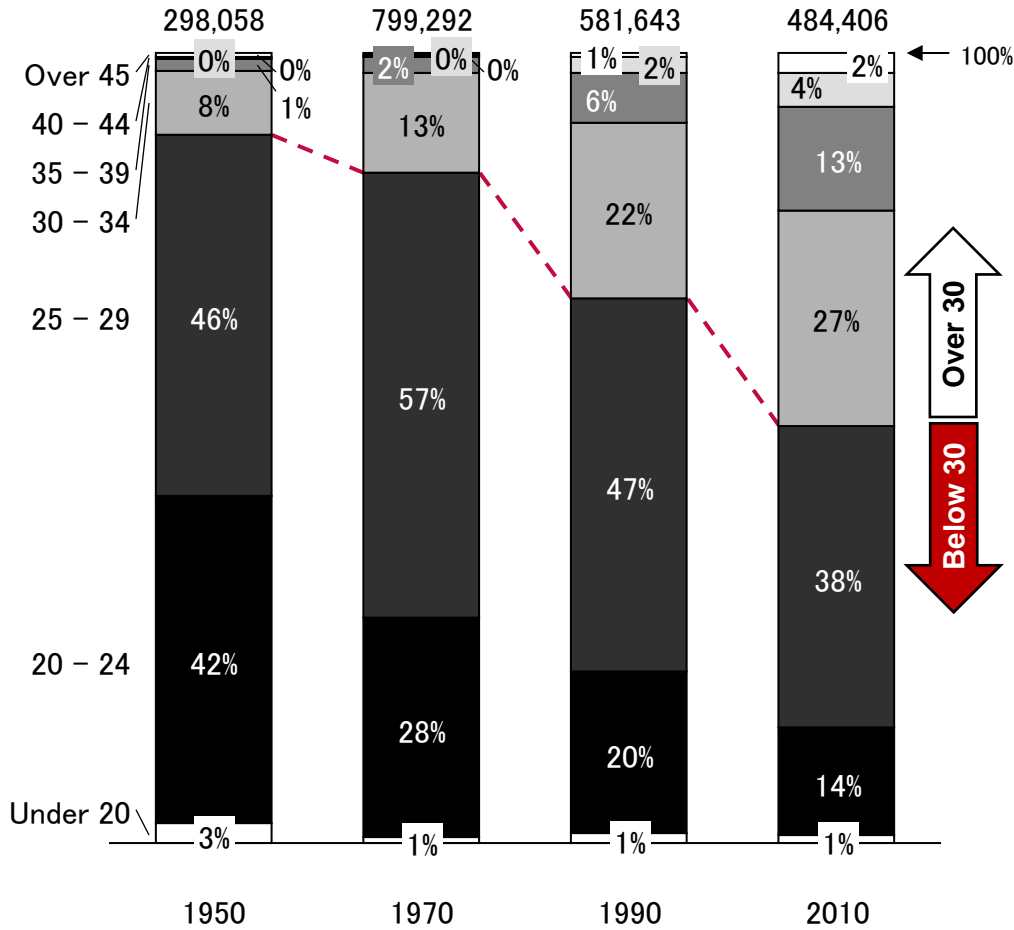


Note (*): Above graph shows actual numbers (1950 – 2010) based on reports issued by Ministry of Health, Labor and Welfare. Forecast numbers are based on a study published by National Institute of Population and Social Security Research (January, 2012) and take in consideration assumptions of medium fertility and mortality rates.

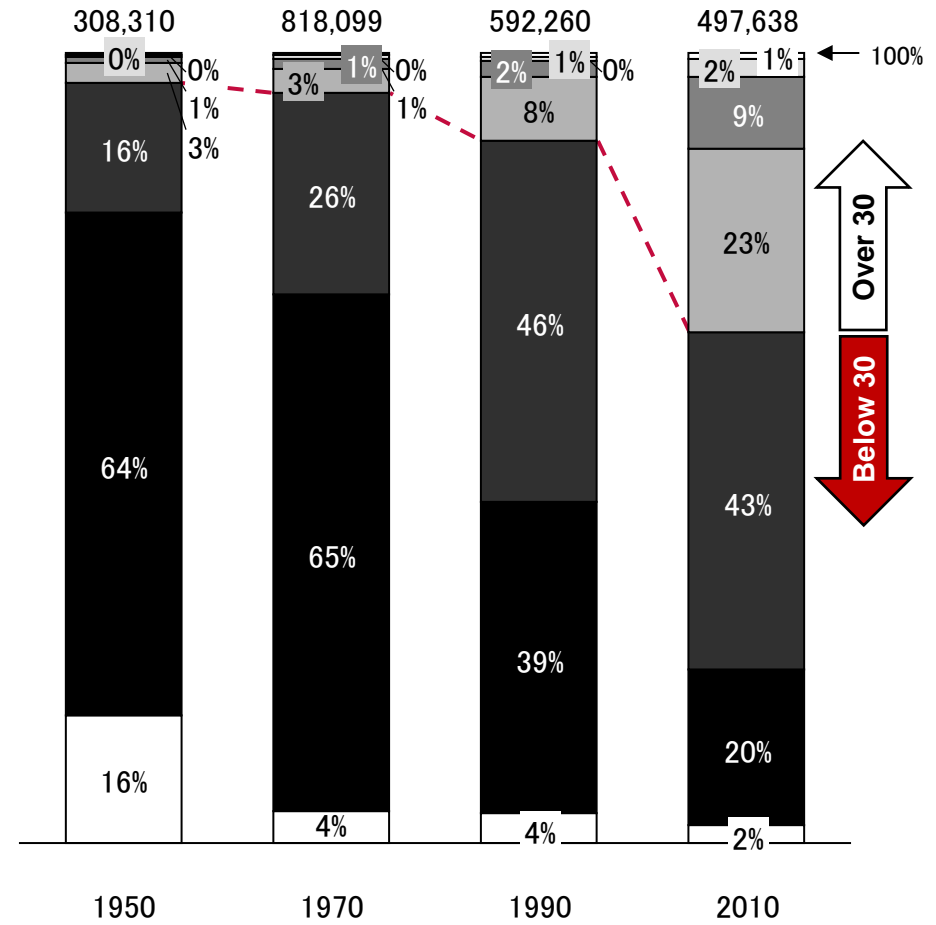
First Marriage by Gender and Age Groups

◆ Significant increase of first time marriages for both genders over 30 yrs of age in the last 20 years

Male

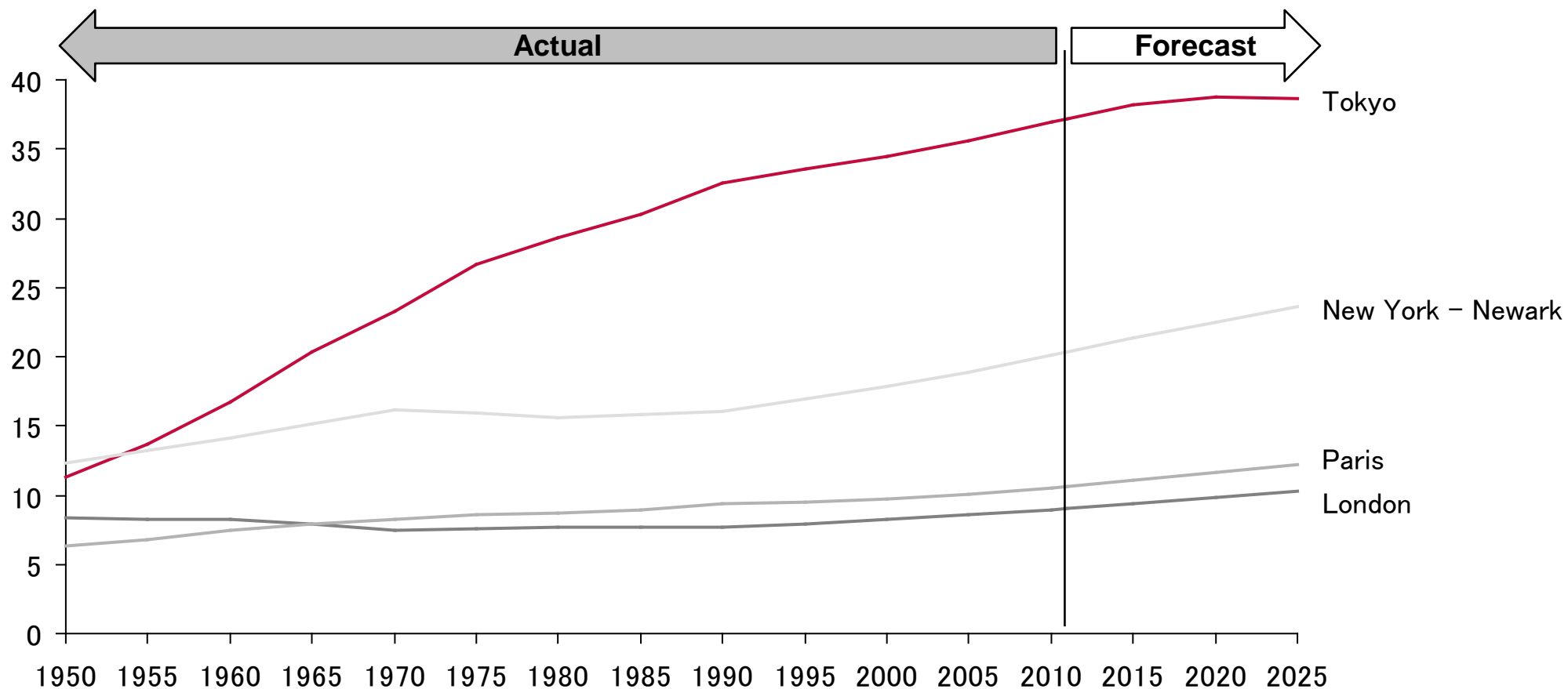


Female



Major Agglomerations in Advanced Economies as Percentage of Total Population (Long-Term Perspective 1950 – 2011A with Forecast to 2025E)

- ◆ Japan's population tends to significantly accumulate in the wider agglomeration of its capital in comparison to other overseas peers

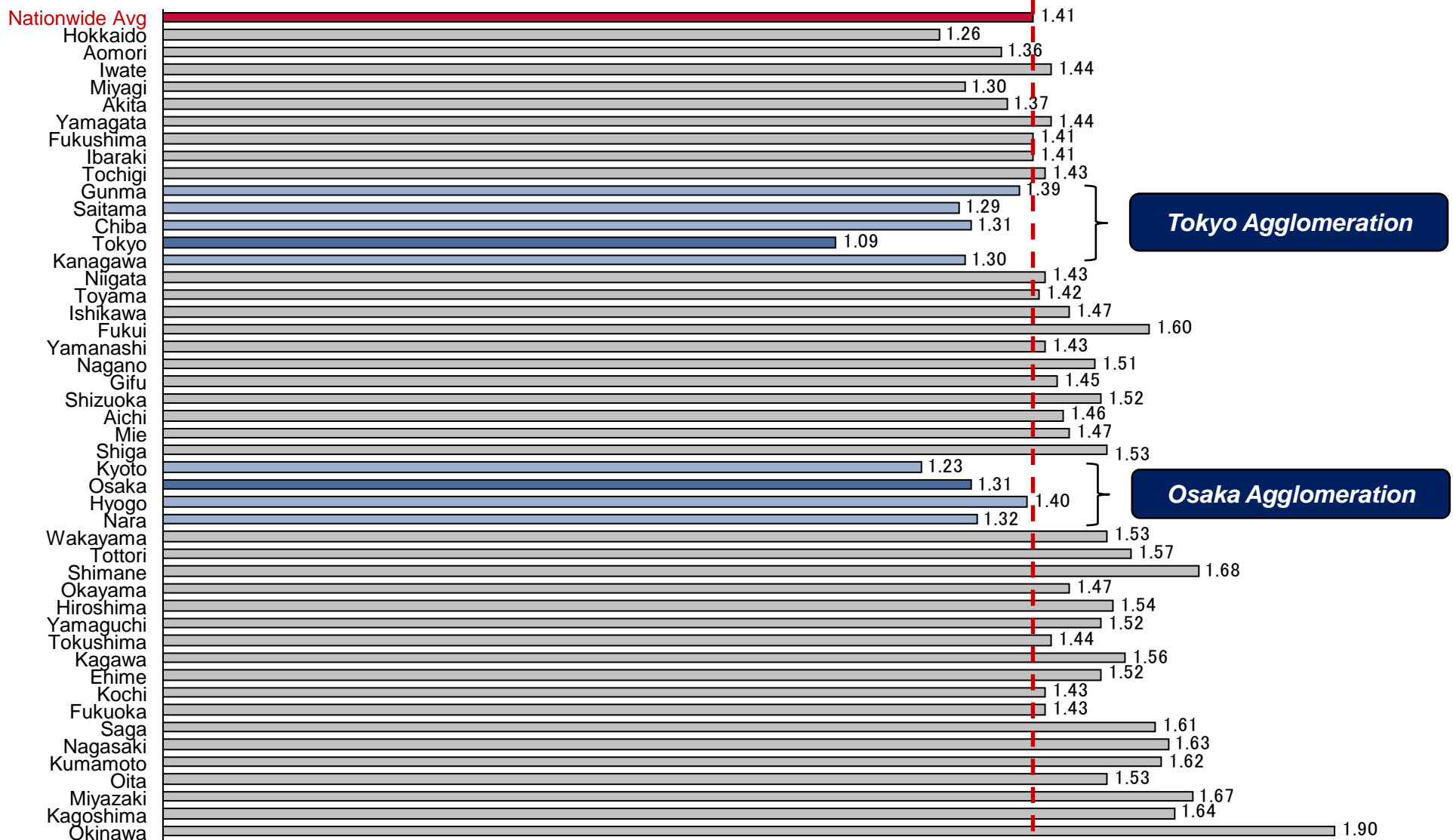


Note (*): Tokyo Agglomeration includes Tokyo Metropolitan Area and neighboring Kanagawa, Saitama, and Chiba Prefectures

Source: United Nations - World Urbanization Prospects: The 2011 Revision

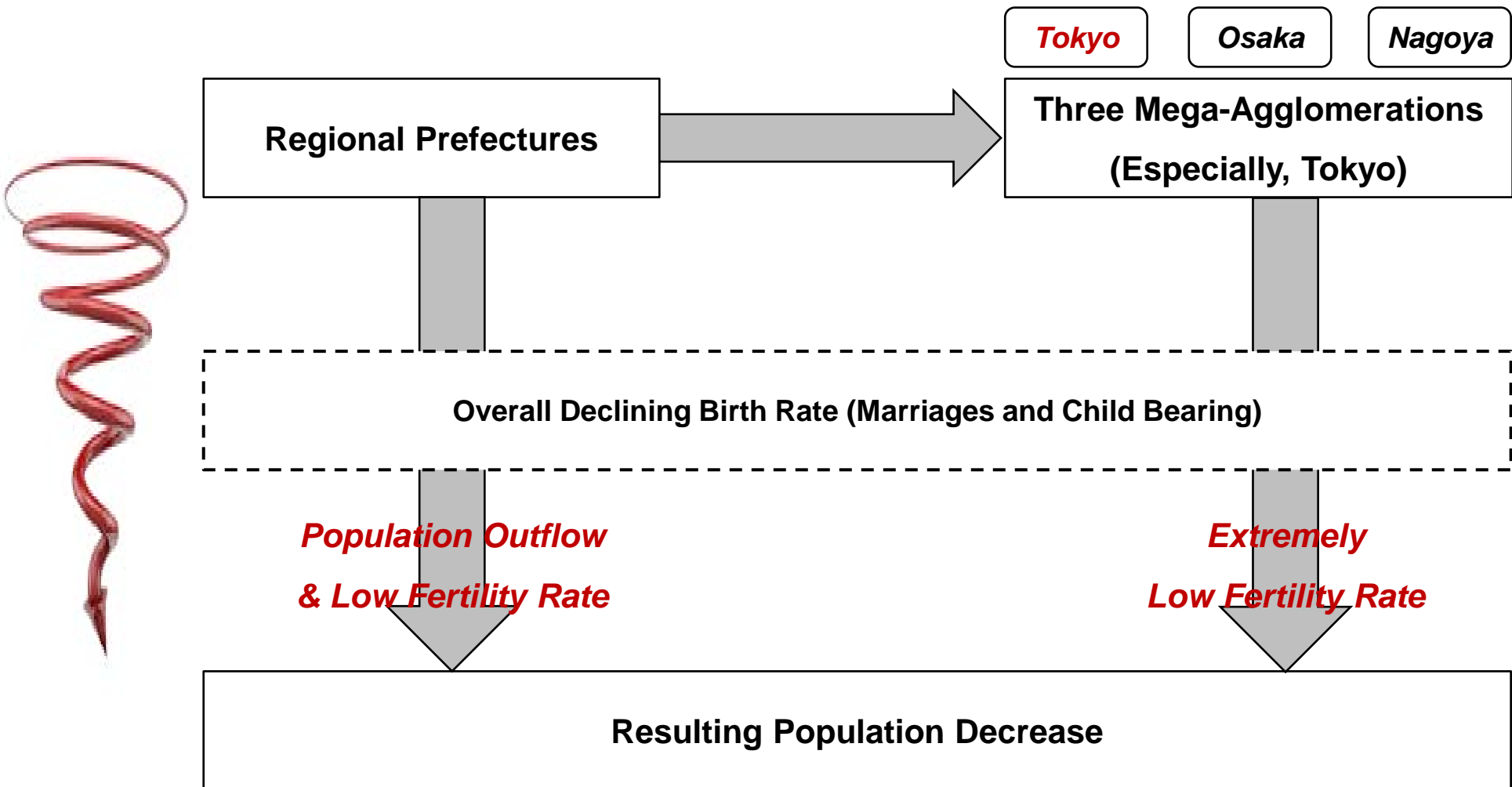
Large Population Clusters Have Total Fertility Rate Below National Average

Total Fertility Rate (2012)



Migration of Young People to Large Population Clusters Further Stimulates Overall Population Decrease

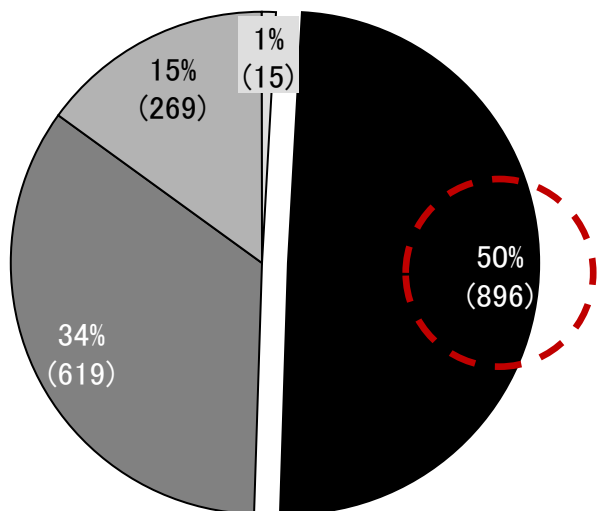
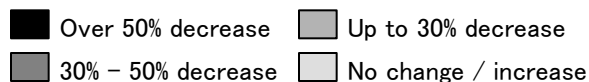
◆ Vicious Circle of Downward Population Decrease Spiral



Dark Cloud Over the Future of Regional Authorities

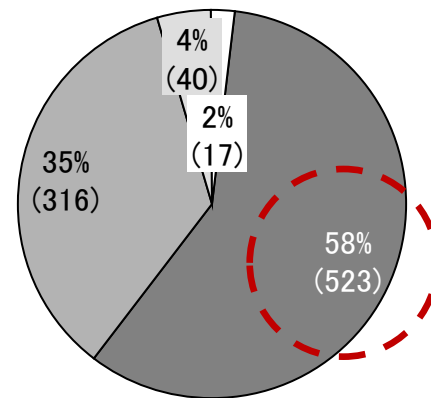
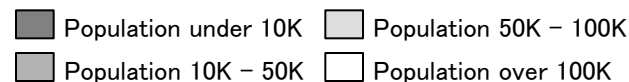
- ◆ All depends on young female population (20 – 39 yrs of age) as key variable
- ◆ In 2040, if young female population decreases by more 50%, **there is a high potential** especially these regional authorities **to cease completely**
- ◆ This trend is **preventable by consolidation** of these regional authorities:
 - If below left 896 regional authorities are consolidated, only 373 (20.7%) will experience over 50% decrease
 - If below right 523 regional authorities are consolidated, only 243 (13.5%) will be affected

Fluctuation of Local Female Population (20 - 39)



Total of towns & villages = 1,784

Breakdown by Size of Affected Municipalities

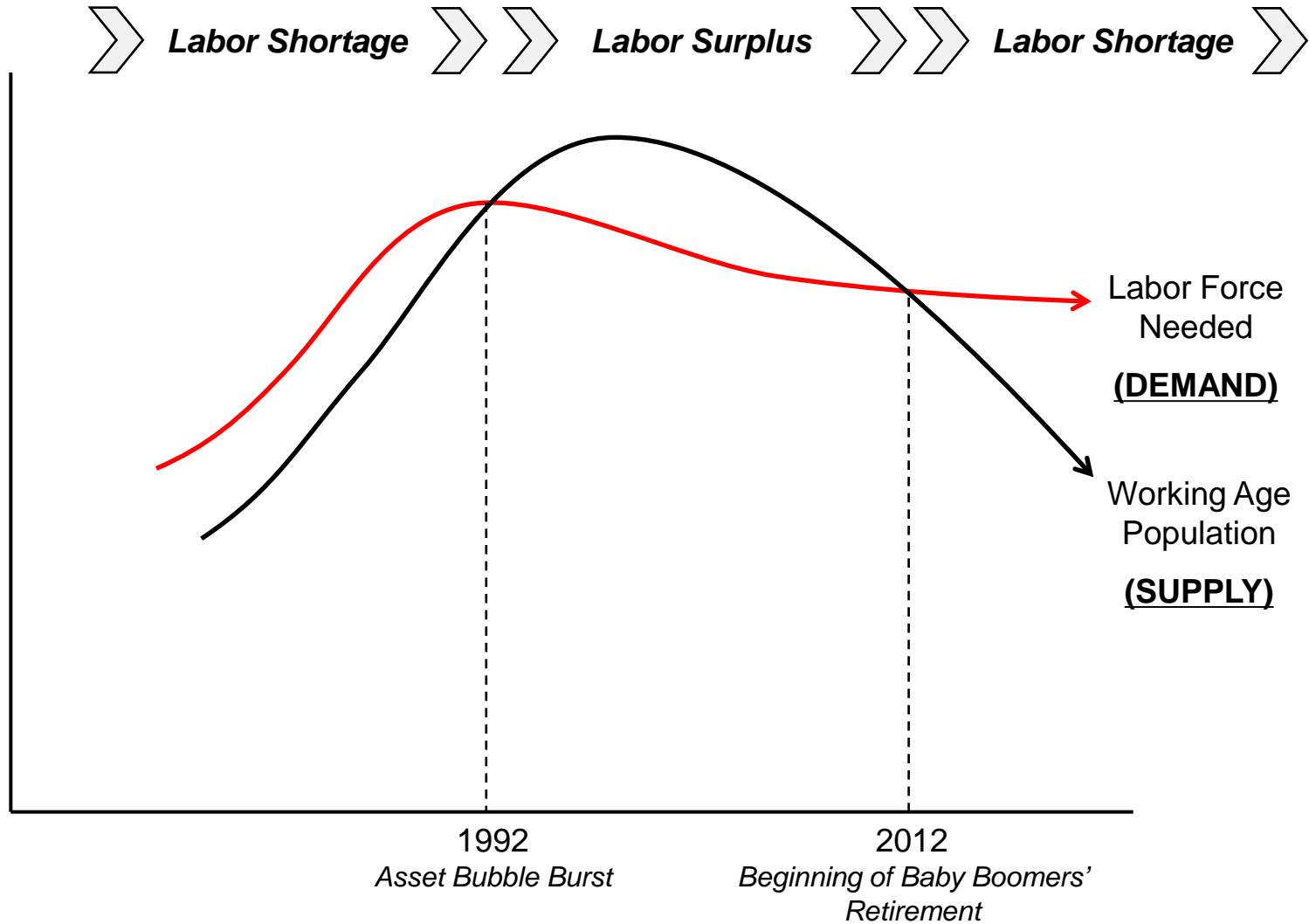


Total of affected towns & villages = 896

2. Japanese Working Age Population

~ Divide Between Earners and Retirees ~

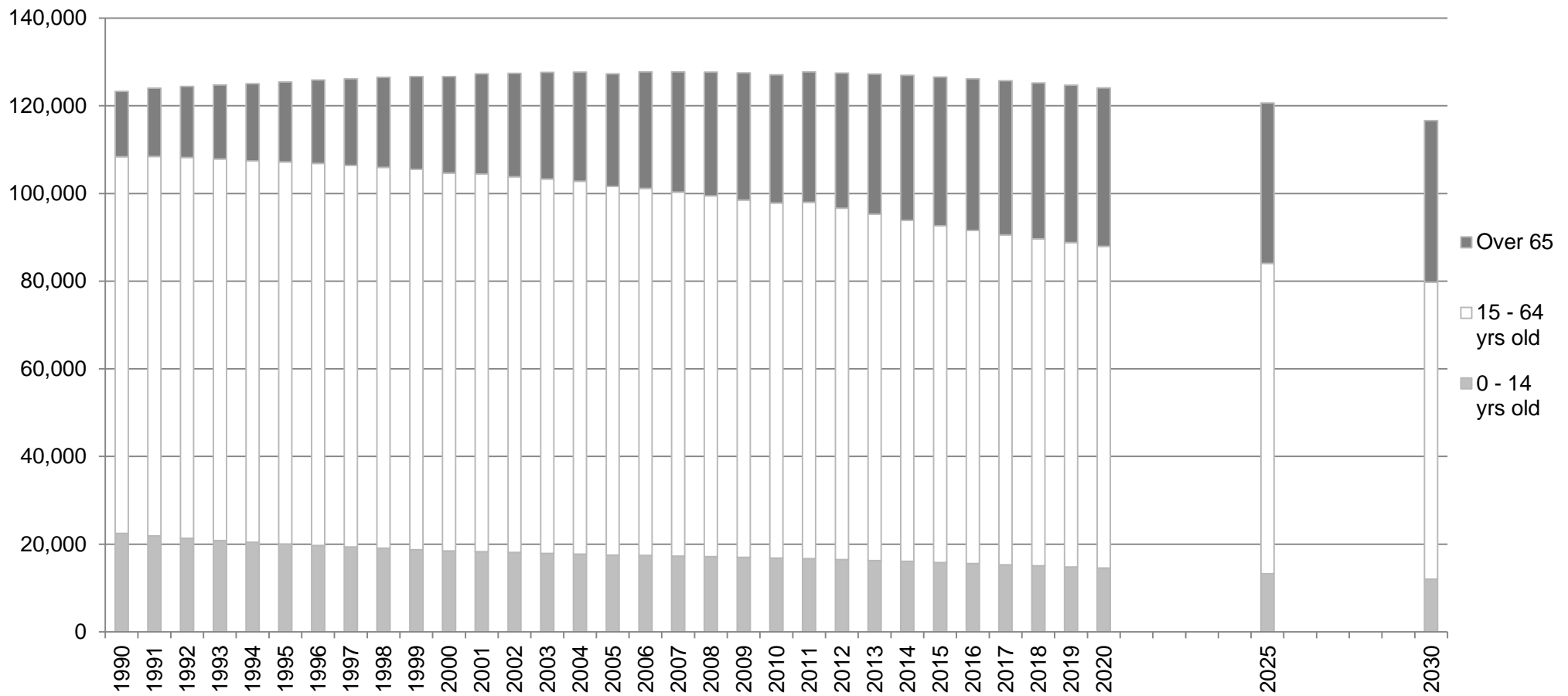
Labor Supply and Demand in Relation to Working Age Population Trend



End of Labor Surplus – Paradigm Shift in Japan’s Socioeconomic Issues

◆ Recent sense of labor shortage is not a temporary phenomenon but chronic and structural issue

Population By Age Groups (In Thousands)

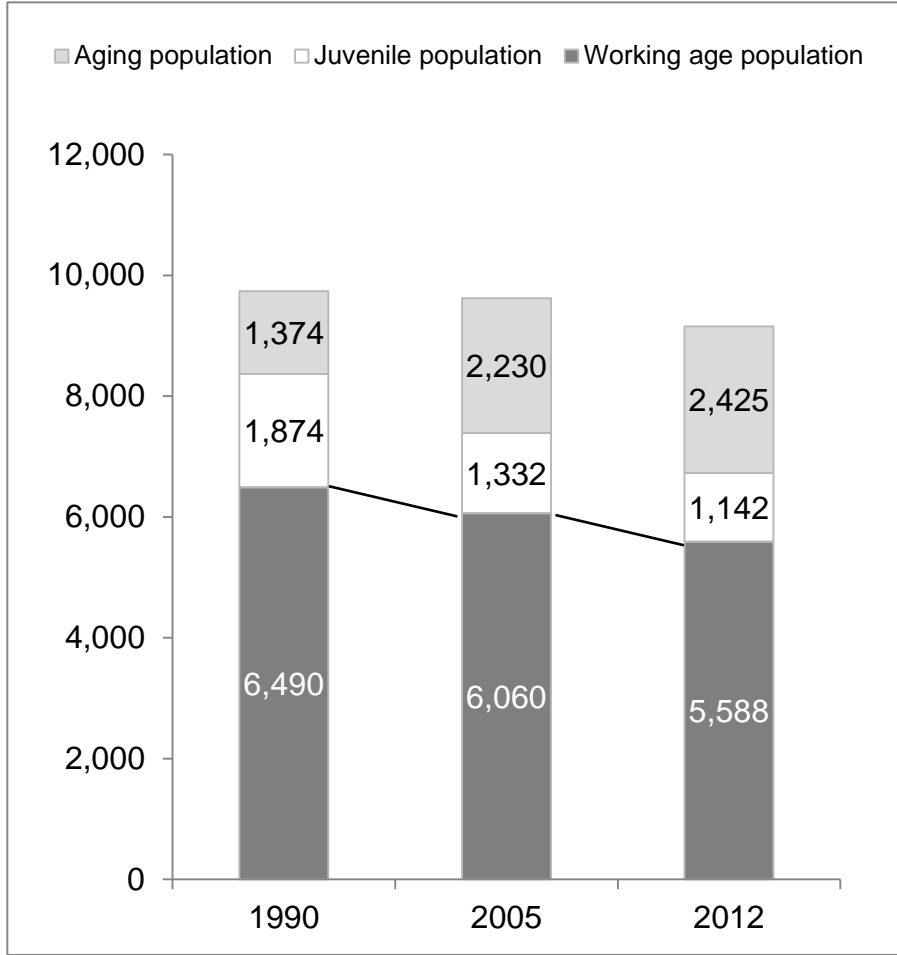


Source: NIPSSR, Ministry of Internal Affairs and Communications

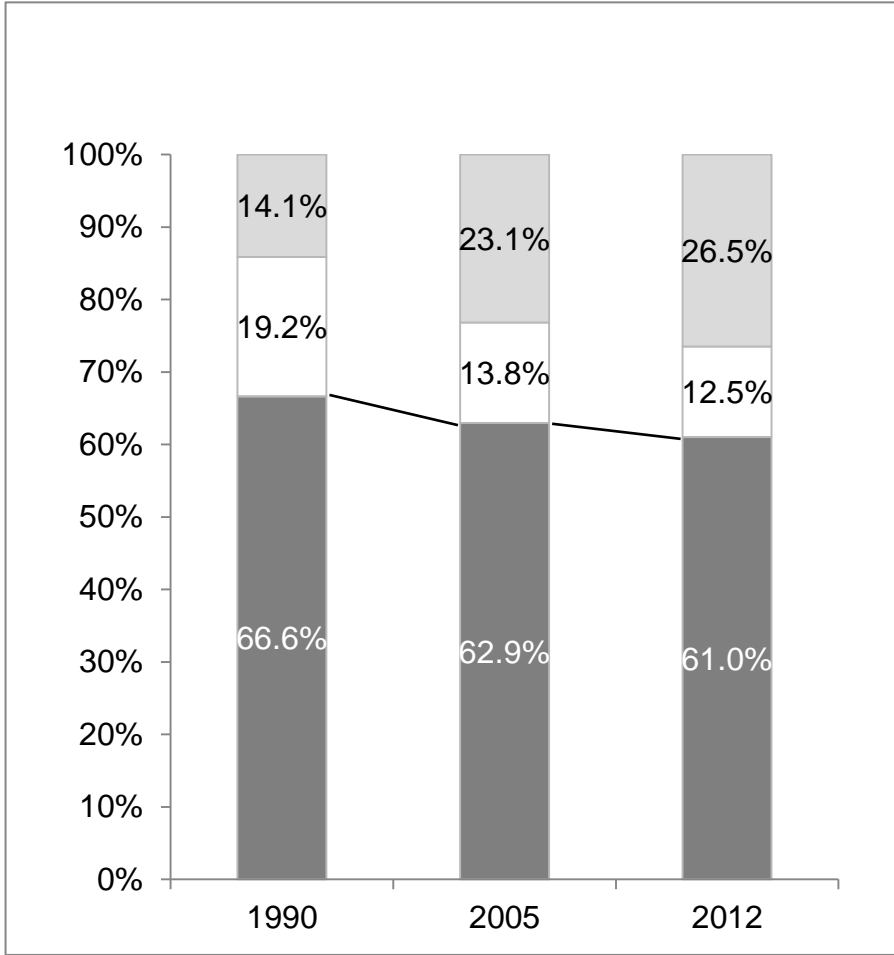
Working Age Population Decrease is Apparent in Regions (Tohoku Example)

◆ Tohoku region lies in the Northeastern part of Japan's main island Honshu

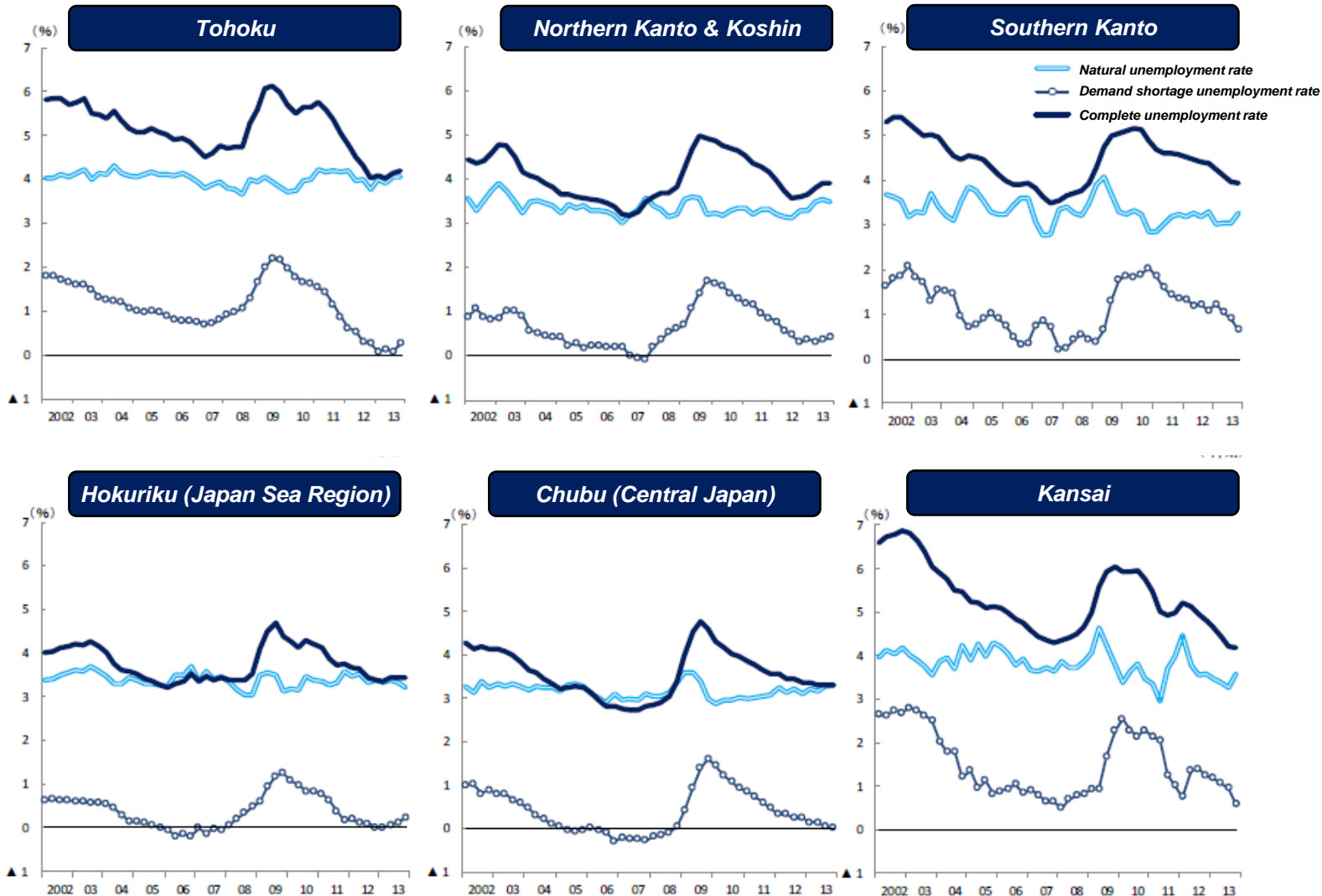
Tohoku Region
Population Composition (In Thousands)



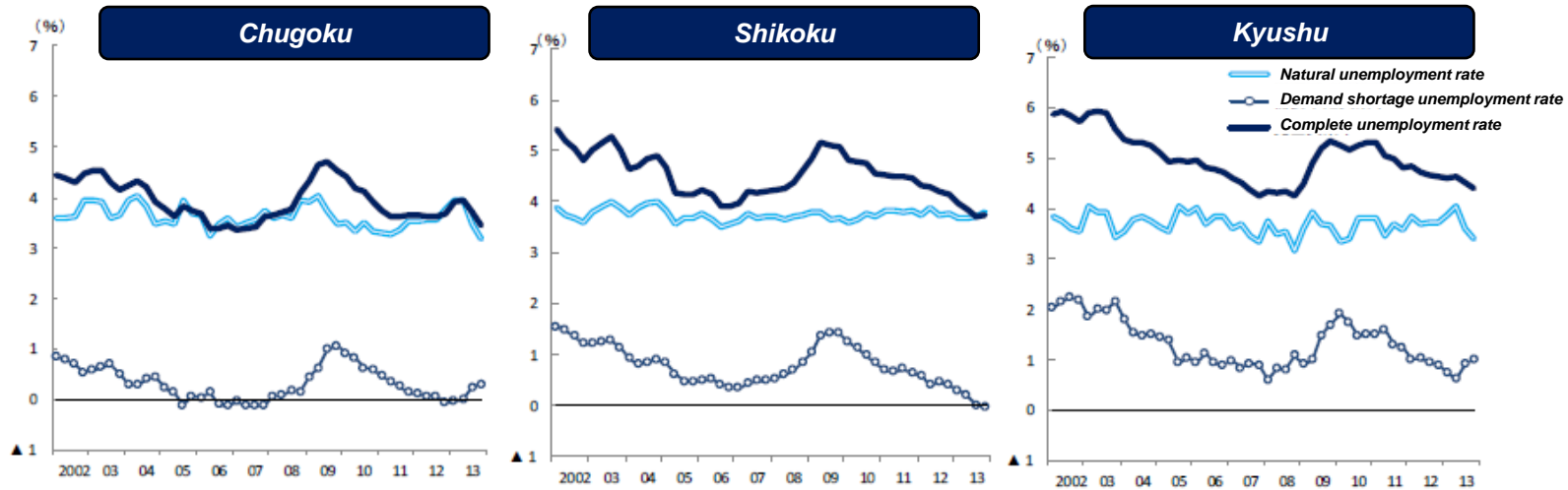
Tohoku Region
Population Composition (%)



Complete Unemployment Rate by Region (1 / 2)



Complete Unemployment Rate by Region (2 / 2)



3. Global and Local Economic Spheres in Japan

~ Divide Between Metropolitan & Global and Rural & Local Economic Spheres ~

Global vs Local Perspective – A Comparison

- ◆ Both economies loosely depend on each other but have no direct relation (trickle-down **doesn't** occur)
- ◆ Going forward both G and L sphere require progress. However, the most important thing to do is to prepare policy system and growth strategies that suit individual sphere's specific needs and secure their coexistence.

	<u>G</u> Sphere (Global Economy Participants)	<u>L</u> Sphere (Local Economy Participants)
Market	<ul style="list-style-type: none"> ✓ Manufacturing, sector, Large enterprises (Represents 30 - 40% of workforce and GDP) ✓ Global playing field, perfect competition (Global economies of scale, world standard differentiation) 	<ul style="list-style-type: none"> ✓ Service sector, SMEs (Represents 60 - 70% of workforce and GDP) ✓ Local driven, imperfect competition (Economies of density, dispersed industry/competition structure)
Product	<ul style="list-style-type: none"> ✓ Physical products, information/data ✓ In principal, procurable 	<ul style="list-style-type: none"> ✓ Services (Basically, in-person selling) ✓ Local production and local consumption (same time and place)
Labor	<ul style="list-style-type: none"> ✓ Gradual decrease is expected in the long term ✓ Knowledge-intensive (People with a high degree of skills and high wages) 	<ul style="list-style-type: none"> ✓ Hollowing occurs less. More likely to improve more in the long term ✓ Labor-intensive (People with average skills and less likely to improve wages)
Characteristics	<ul style="list-style-type: none"> ✓ Location choice of production sites does not necessarily link consumption region (Choice of best location in accordance with the purpose of the site) ✓ On international current account basis, economy sphere is the earner of trade and income balance. Important to realize and maintain top level competitiveness 	<ul style="list-style-type: none"> ✓ Imperfect competition-driven market and difficult market discipline (Limitation by customer freedom of product selection) ✓ On current account basis, economy sphere remains in red numbers. Important to improve productivity in order to minimize these losses
Examples	<ul style="list-style-type: none"> • Medical devices and pharmaceuticals • ICT industry (Non-personal selling) • Electronics and machinery 	<ul style="list-style-type: none"> • Transportation (Rail, bus, taxi), distribution • Food & drink, accommodation and counter retail • Welfare services (Medical, social work, nursery)

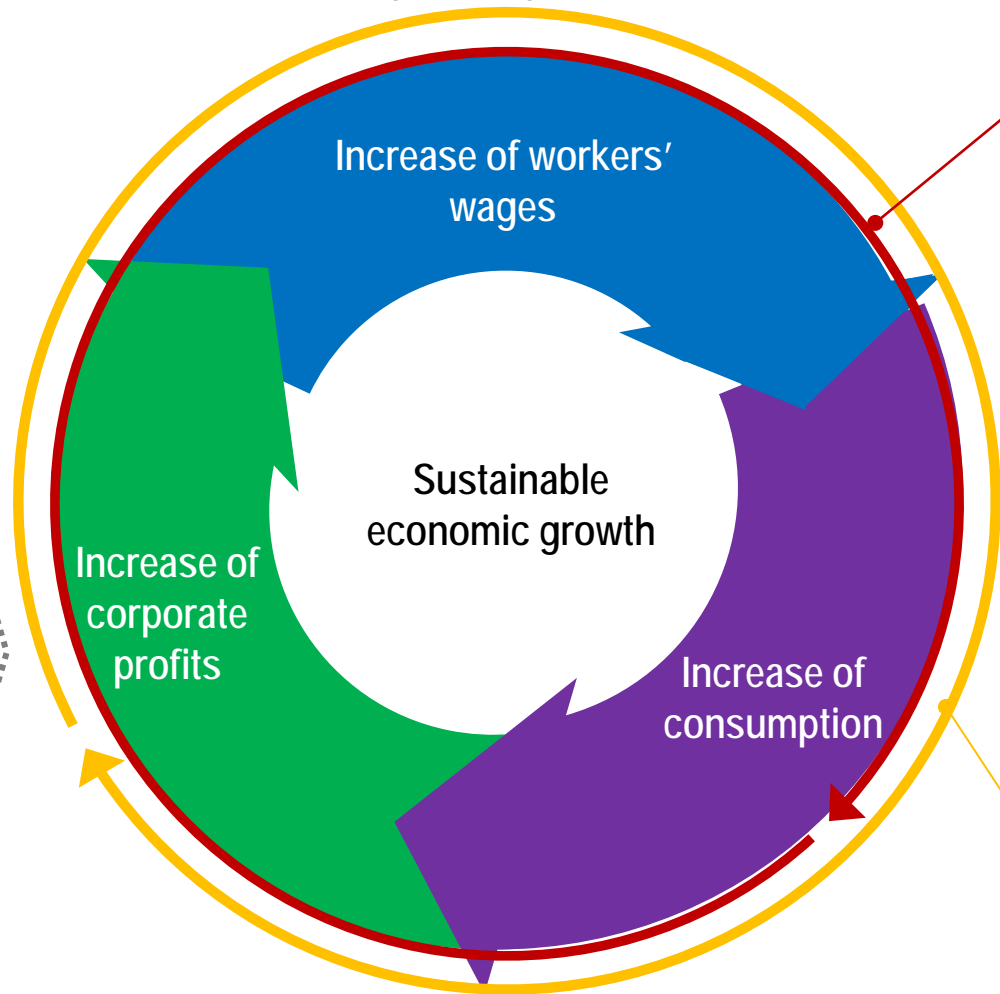
Japan From Global vs Local Perspective – Challenges of Growth Strategy

- ◆ Global economy sphere (G) and local economy sphere have different underlying economics and industry characteristics. Therefore, individual growth strategies need to be considered based on specific nature of the sphere.
- ◆ Need to create a strategic system related to paradox of globalization (As globalization increases, more GDP and employment becomes dependent on local economies in advanced economies)

	<u>G</u> Sphere (Global Economy Participants)	<u>L</u> Sphere (Local Economy Participants)
Theme	Winning the global business “Olympics”	Simultaneous regeneration and metabolism
Challenges	① Prepare Olympic standard competition environment: → Create world-class location competitiveness and competition rules (Including corporate governance) → World’s top athletes (companies and individuals) send to activity base in Asia	✓ Simultaneously achieve improvement of local economy productivity, stable employment and wages through a “gentle” exit & consolidation policy and smart regulation
	② Regardless of company size, increasing Japanese “Olympics medalists” ⇒ Increase national wealth (Stock price, trade balance, income balance)	

Objectives of Growth Strategy

- ◆ Within the individual strategies for G and L spheres, it is essential to achieve a favorable cycle (Promotion of corporate metabolism and innovation → Improvement of competitiveness and productivity → Increase of workers' wages) aiming for sustainable economic growth but with quite different strategic "menu"
- ◆ G sphere-related policy efficiency will create the necessary time reserve by leading the whole Japanese economy, effects in L sphere, representing the larger pie, are realistically to be apparent with a lag



Step ①

- Policy for G sphere has relatively instantaneous effect and can lay foundation for reform to preserve business conditions
- On the other hand, L sphere policy is slow acting. Start as soon as possible

Step ②

- Policy for L sphere is high, tends to be slow-acting but as it is proportionally larger pie of the whole economy, effects of economic growth have a more significant impact

Promotion of corporate metabolism and innovations
↓
Improvement of competitiveness and productivity

G Sphere (Global Economy): Strategy and Policy

~Winning the Global Business “Olympics”~

- ◆ Here, the key is to build on the latent competitiveness of individual companies and increase the number of Japanese “Olympic medalists” by preparing the right, world-class environment and communicating that with rest of the world

		Strategy	Policy	Effect
Increased Consumption	High Stock Prices	<ul style="list-style-type: none"> ✓ Reach out to the world investors and provide with signals that justify the high stock prices <ul style="list-style-type: none"> ➔ Promote the increase of consumption and investment by the wealth effect 	<ul style="list-style-type: none"> ✓ Reduction of corporate taxes <ul style="list-style-type: none"> – Appeal to long-term and rational expectations of corporations – Local competition perspective ✓ Strengthening of corporate governance <ul style="list-style-type: none"> – Obligate multiple independent directors – Introduce corporate governance codices – Create global section on Tokyo Stock Exchange – Reform of GPIF (Government Pension Investment Fund) – Introduce IFRS ✓ Deregulation ✓ Improve capital efficiency - benchmarking (ROE, ROIC) ✓ Building trust in fiscal consolidation 	Short to mid term
	Metabolism	<ul style="list-style-type: none"> ✓ Strengthen the management rules for global companies, increase corporate metabolism (individual & between companies) and bring out the original, potential competitiveness of Japanese companies <ul style="list-style-type: none"> ➔ Improve corporate growth and profitability, strengthen national wealth by increase of trade and income balance 		
Improved Corporate Profitability	Growth Industry	<ul style="list-style-type: none"> ✓ Industrial location policy, specializing in global, high functionality features <ul style="list-style-type: none"> ⇒ Attracting global companies and VC HQ, R&D functions, mother plants and high production bases to Japan 		
		<ul style="list-style-type: none"> ✓ Raising “super-elite” that can establish globally competitive VB and raise capital need for large technological VC <ul style="list-style-type: none"> ➔ Promote creation of large scale ventures that can survive the fierce, global competition 		
Wage Growth	Labor Market	<ul style="list-style-type: none"> ✓ Attract and retain knowledge-based industries. Pay high wages to highly-skilled workers. ✓ Increase wages in line with corporate profitability improvement 	<ul style="list-style-type: none"> ✓ Improve working and living conditions for highly-skilled workers ✓ Labor visa, language and child education 	Long term

L Sphere (Local Economy) Strategy and Policy

~Simultaneous Promotion of “Regeneration” and “Metabolism”~

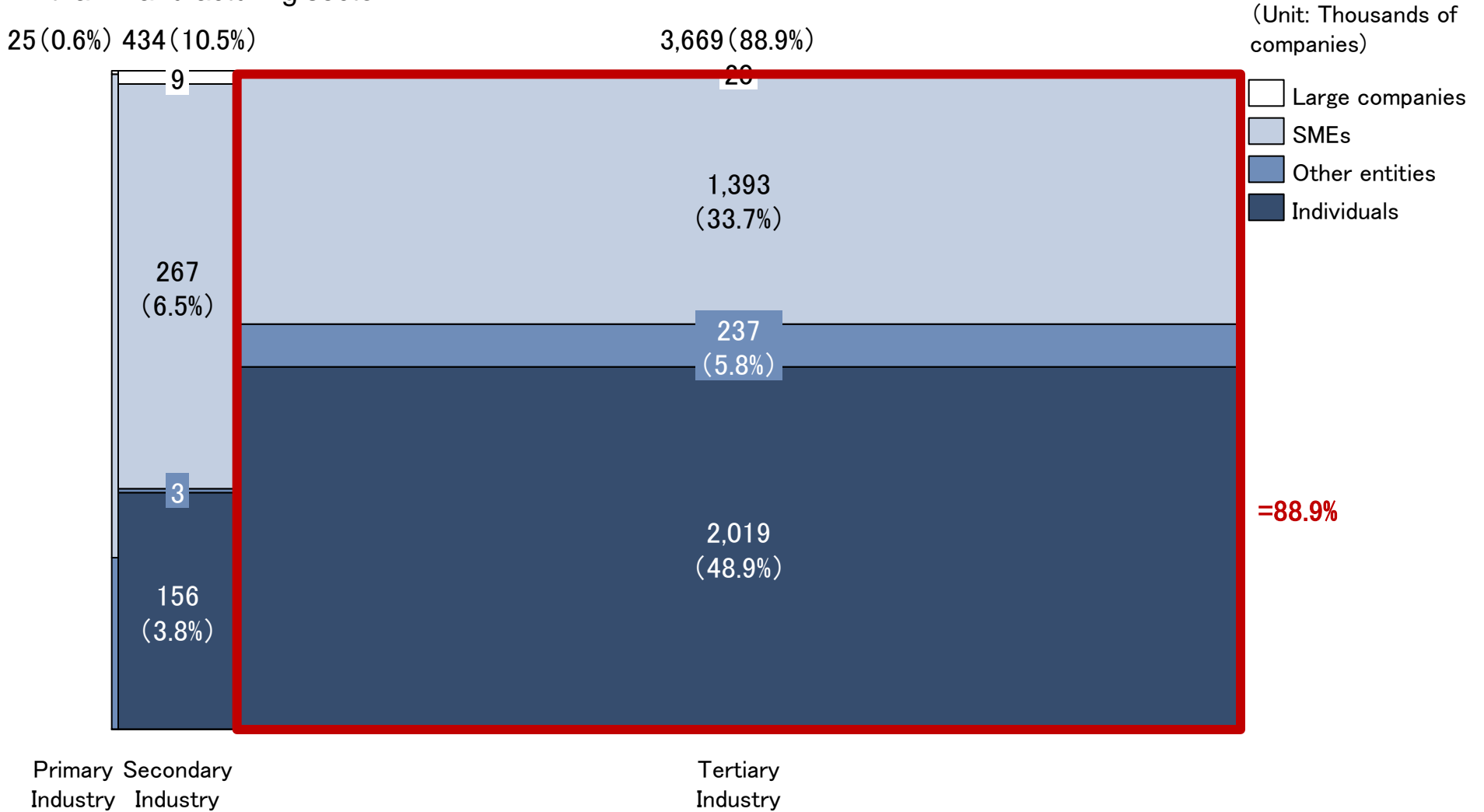
- ◆ For L sphere, heavily impacted by decreasing workforce and advancing aging population, it is the time to enact smart regulation and “peaceful’ exit and consolidation policy, in order to accomplish simultaneous improvement of productivity, stability of employment and wages. However, L sphere effects GDP and employment significantly but as policies are slower and earlier start is crucial. Therefore, it is important to lead economic policy with focus on G, by a global strategy.

		Strategy	Policy	Effect
Improved Corporate Profitability	Capital Markets	<ul style="list-style-type: none"> ✓ Despite low productivity business exit is less likely to happen. As productivity significantly varies even within the same industry, there is still a growth margin for productivity improvement. <ul style="list-style-type: none"> ➔ Low productivity companies should peacefully and smoothly reconcile to exit business and capable, innovative managers should be invited to transform to a appropriate scale by converging low productivity and employment in order to boost productivity 	<ul style="list-style-type: none"> ✓ Strengthen debt governance of local financial institutions ✓ Introduce bankruptcy legislation stimulating consolidation and fast revival (Mgmt obligated to file proceedings (Germany), file requirements (USA) or deregulation of agreed requirements ➔ civil rehabilitation process by majority approval efficient 	Long term
	Pro-Competitive Measures	<ul style="list-style-type: none"> ✓ Intensify public services and create corporate governance model to fit leaders ✓ L sphere, suffering from structural and chronic turnout shortage, business exit will not result in unemployment increase but securing workforce as part of productivity improvement 	<ul style="list-style-type: none"> ✓ Reform regulations impeding exit, consolidation and productivity (smart regulation – overcoming many entry related problems) ✓ Shift from life-support (credit guarantees, subsidy and special taxation policies) for zombie companies to “gentle” exit SME policy <ul style="list-style-type: none"> – Limit personal guaranteed in event of change or discontinuance of business – Exit or business transfer support funds 	
Increased Wage Consumption Growth	Labor Market	<ul style="list-style-type: none"> ✓ Utilize labor market discipline to promote exit ✓ Not likely to hollow but as based on labor intensive model, business could tend to exploit employees (unpaid overtime, etc.) so smart regulation needs to be established 	<ul style="list-style-type: none"> ✓ Raise minimum wage by industry and region ✓ Strengthen labor and safety inspection ✓ Strengthen vocational training ✓ Improve participation of elder and female workers ✓ Benchmark by productivity improvements 	Long term
	Consumption	<ul style="list-style-type: none"> ✓ Improved profitability leads to wage growth, which further stimulates consumption 	<ul style="list-style-type: none"> ✓ Increase density of consumption introducing compact cities 	–

APPENDIX

Number of Companies by Industry and Business Size

- ◆ SMEs represent 90% of non-manufacturing sector and are significantly more involved in non-manufacturing than manufacturing sector.



Source: METI 2012 Economic consensus survey
 (Note: Large company = capital stock of JPY 100MN and more, SME below JPY 100 MN or not known)

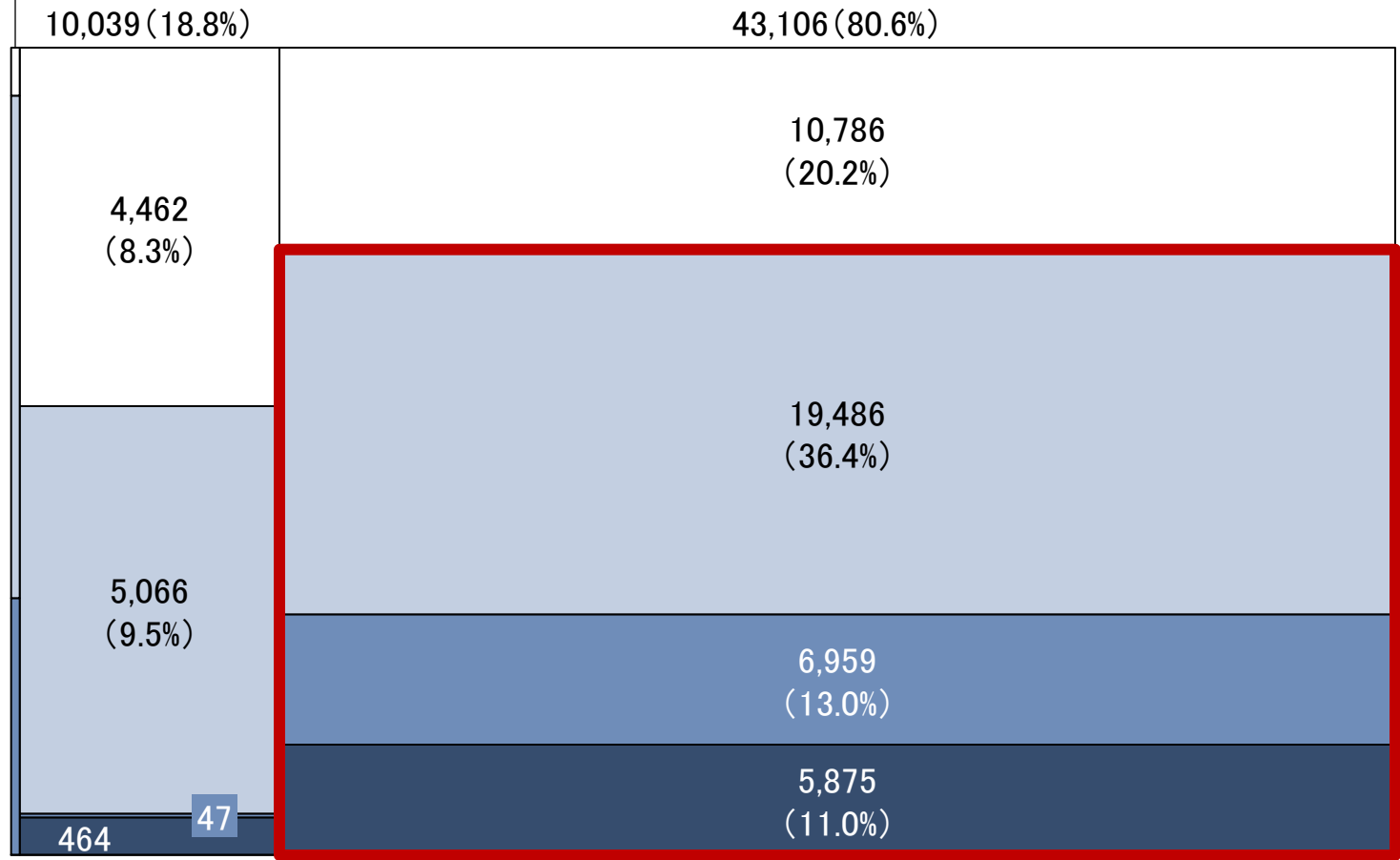
Number of Employees by Industry and Business Size

◆ SMEs represent 60% of tertiary industry. Overall, SMEs more involved in non-manufacturing activities than manufacturing.

341 (0.6%)

(Units: Thousands of people)

- Large companies
- SMEs
- Other entities
- Individuals



=60.4%

Primary Industry Secondary Industry

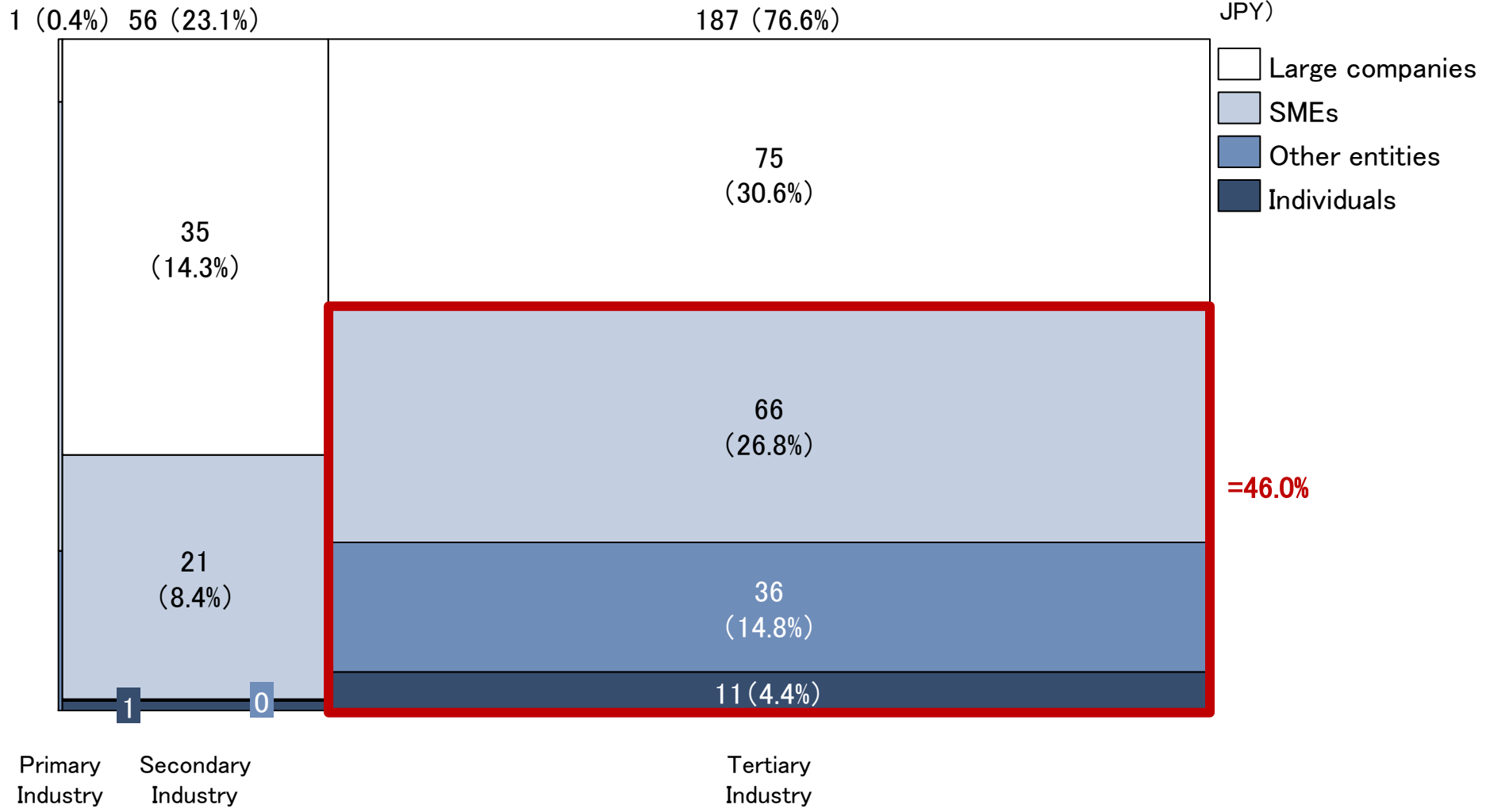
Tertiary Industry

Source: METI 2012 Economic consensus survey
 (Note: Large company = capital stock of JPY 100MN and more, SME below JPY 100 MN or not known.)

Value Added by Industry and Business Size

- ◆ SMEs in non-manufacturing sector represent approximately a half of the total. Also, non-manufacturing sector strongly outweighs manufacturing in SME segment.

(Units: Trillions of JPY)

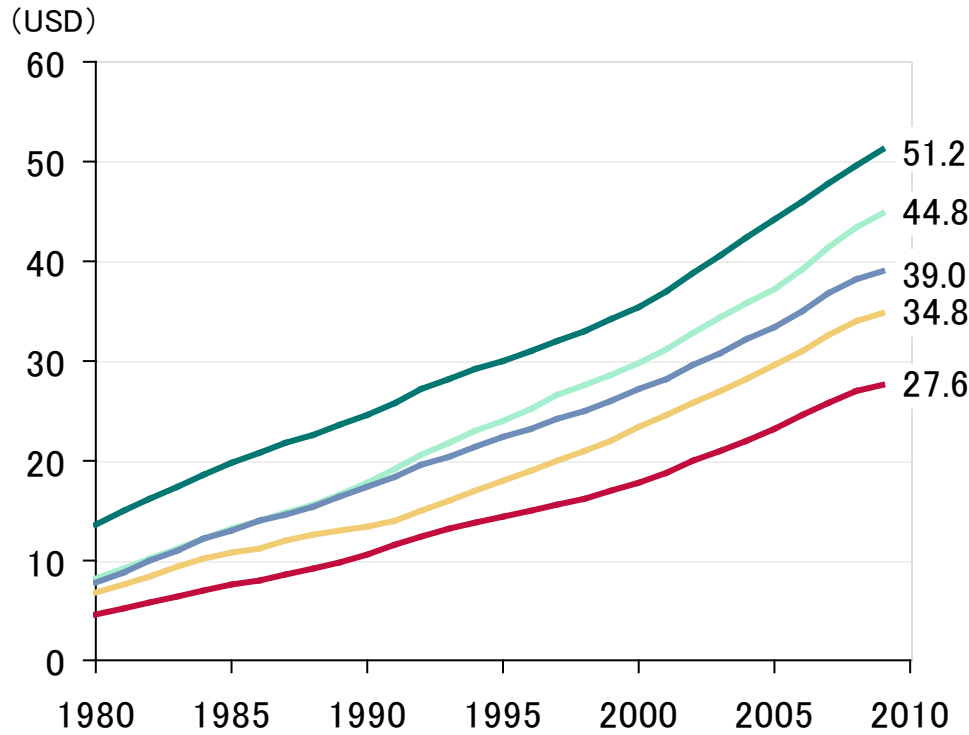


Source: METI 2012 Economic Consensus Survey. Note: Large company = capital stock of JPY 100MN and more, SME below JPY 100 MN or not known. Reference: **Value Added = Revenue – (All Expenses (COGS+SG&A)+ Wages + Taxes & Dues)**

International Comparison of Labor Productivity in Non-Manufacturing Sector

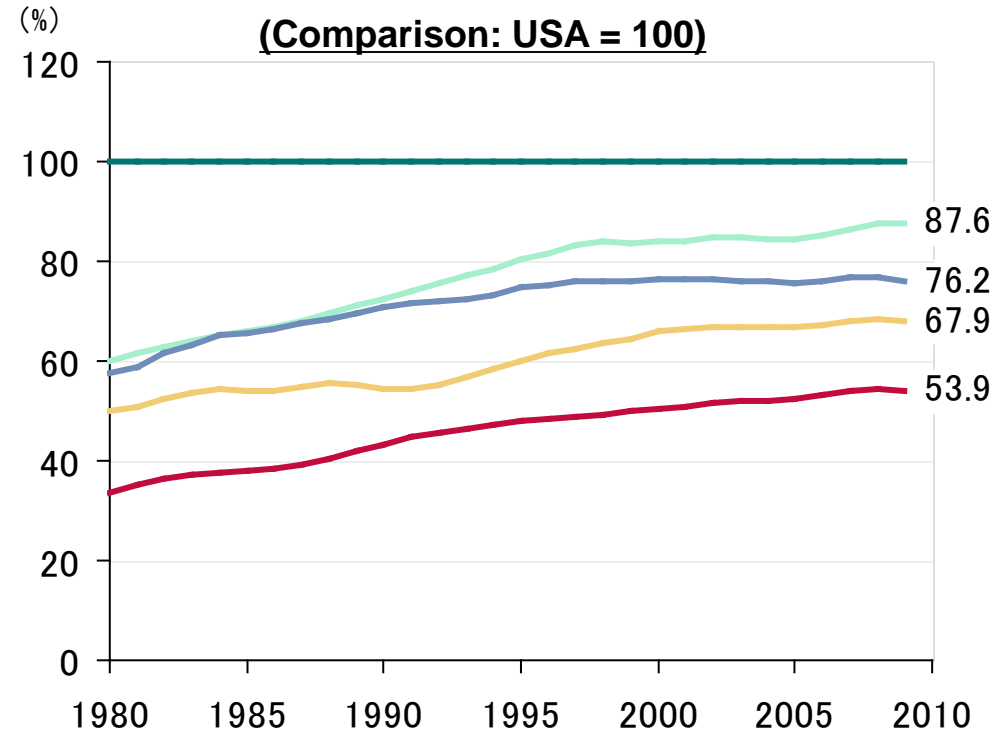
◆ Japanese labor productivity reaches about a 50% of that of USA, still less than other European peers

Labor Productivity Levels



Japan USA Germany UK France

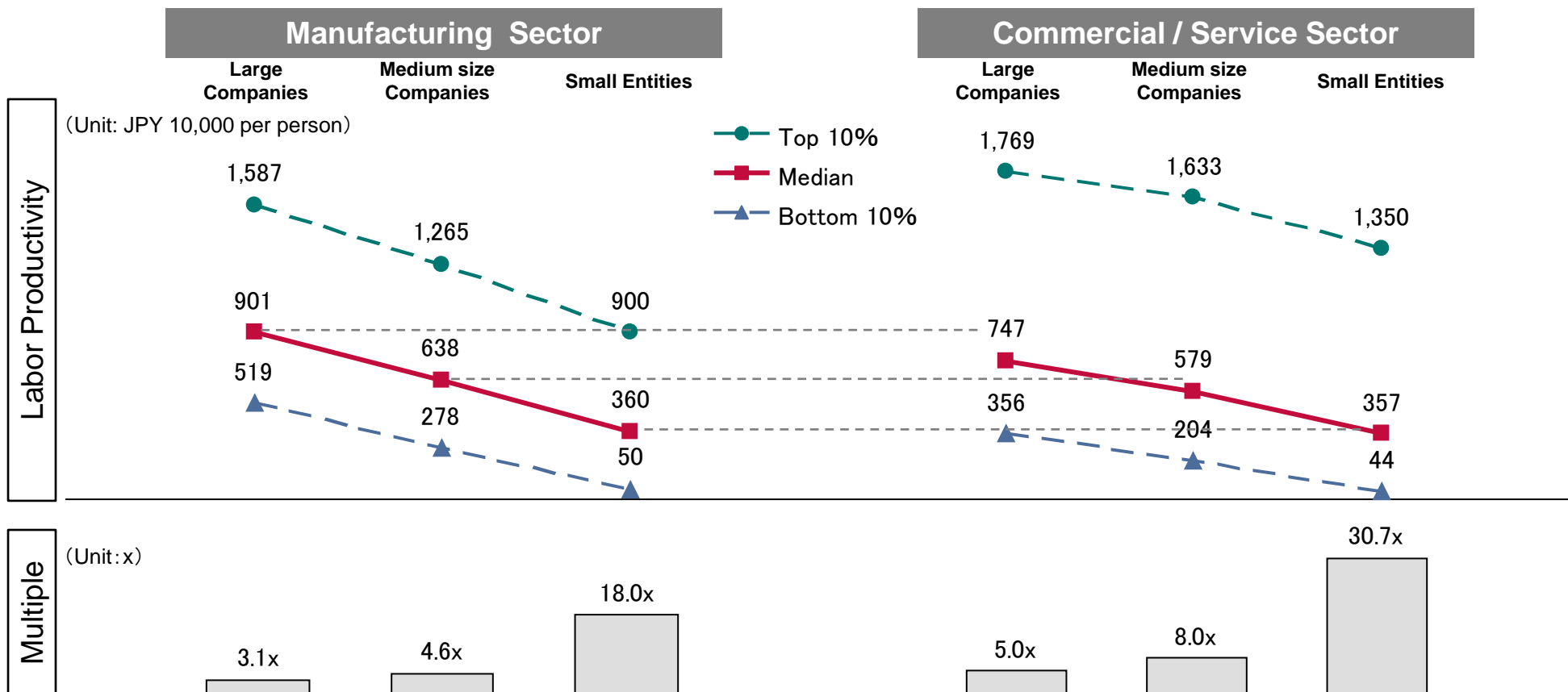
Labor Productivity vs USA



Japan USA Germany UK France

Productivity Comparison By Industry & Scale

◆ In comparison to manufacturing sector, commercial / service sector's median value is lower. Additionally, gap in productivity significantly widens between large and small entities and manufacturing and commercial / service sector.



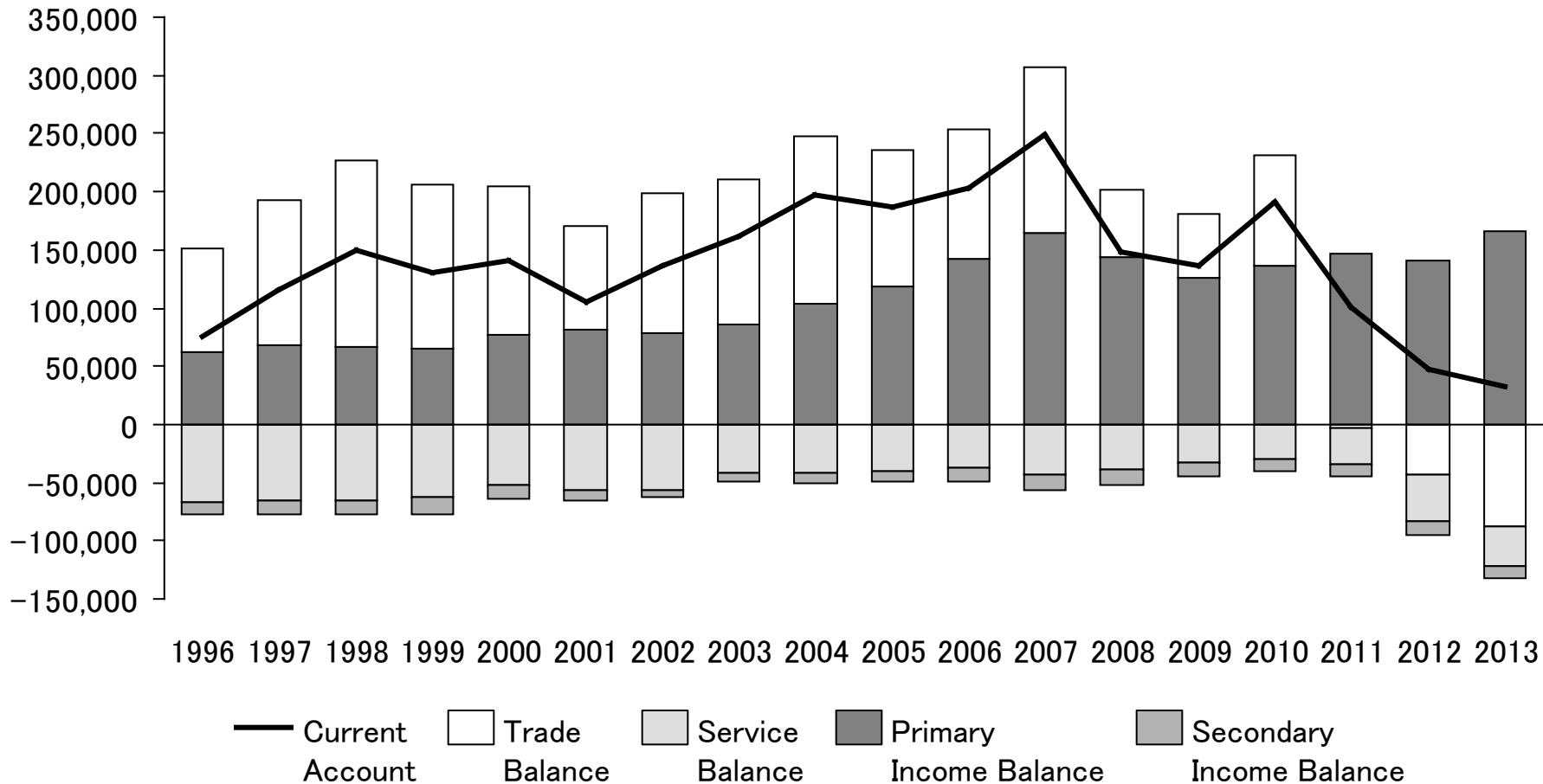
Source: MOF - Corporate Annual Statistics (2011)

(Note*)

1. **Labor Productivity** = Value Added / # of Employees
2. **Value Added** = Labor expense + Interest expense + Rental fees + Taxes & Dues + Net Operating Profit
3. **# of Employees** = # of Directors + # of Staff Members
4. **Multiple** = Labor productivity of Top 10% / Labor productivity of Bottom 10%

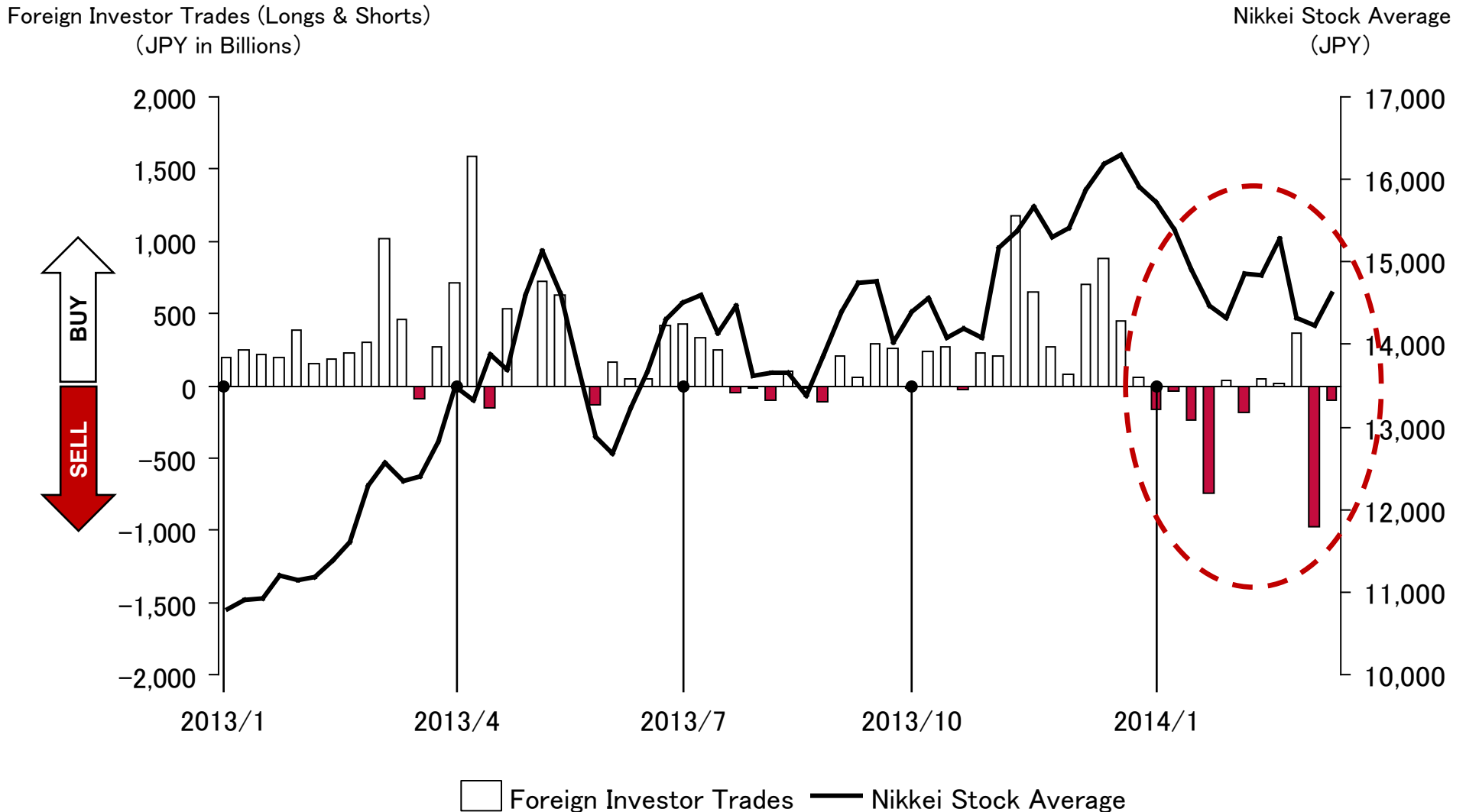
Trend and Breakdown of International Current Account

◆ Japan is able to sustain positive balance due to trade and primary income (Interest & Dividends) balance by activities of global companies. Recently, trade balance is in deficit so overall positive amount has decreased.



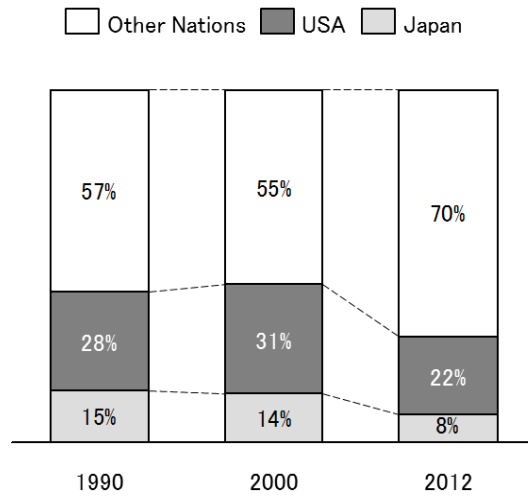
Capital Markets Conditions

- ◆ Since the start of Abenomics, stock index has risen as result of overseas investors buying in. Recently, index has been struggling to grow further.



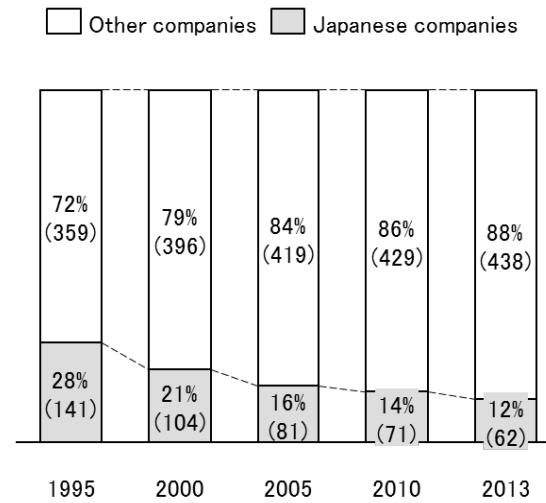
Japanese Economy and Companies Loosing Position in World Economy

World GDP Composition



Source: IMF Data

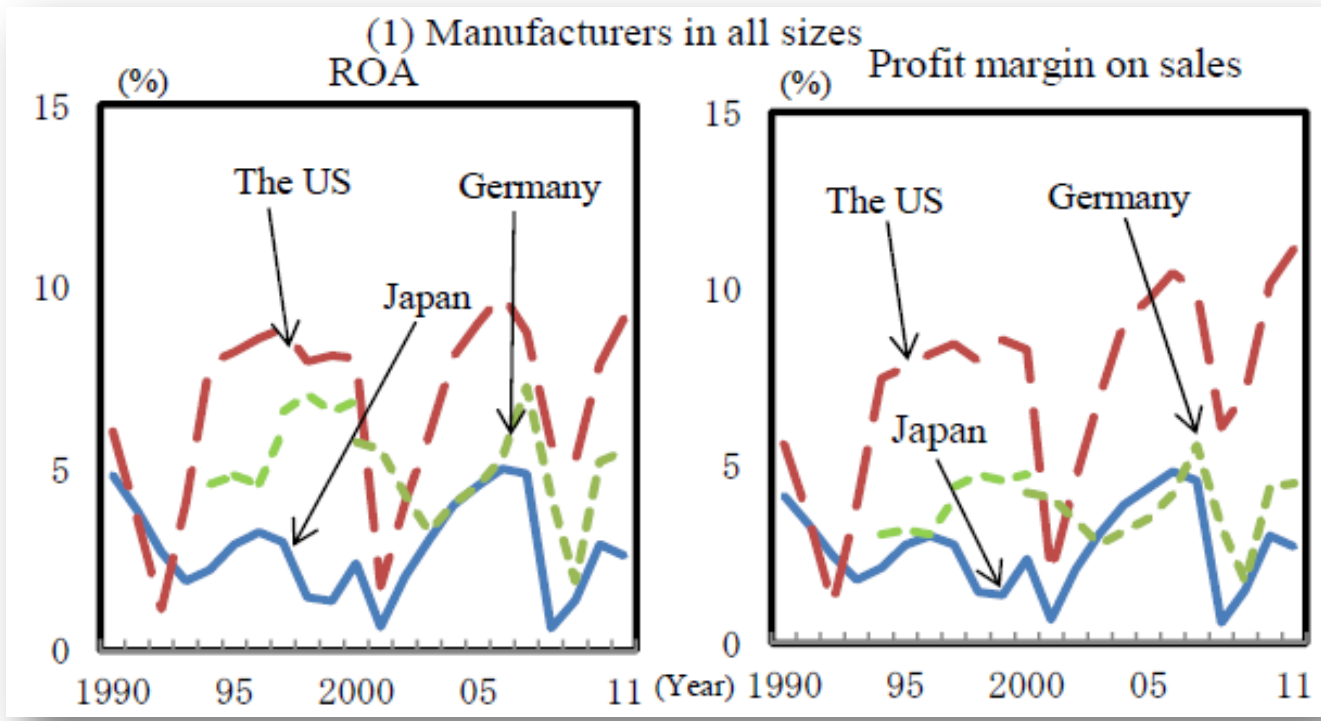
Fortune Global 500 List



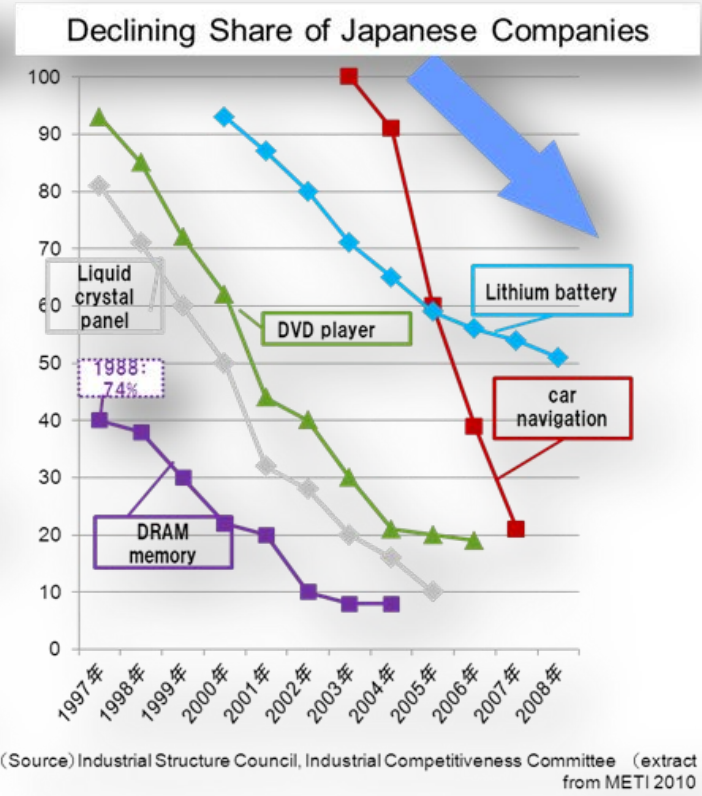
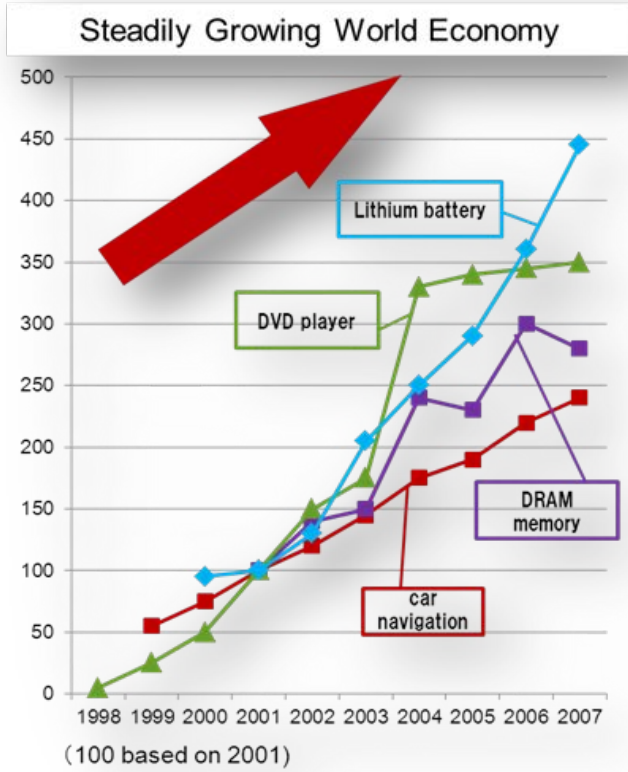
Source: Fortune

Long-term Performance Comparison of Japanese, German and U.S. Companies

Long-term ROA and OPM Comparison in Manufacturing Sector

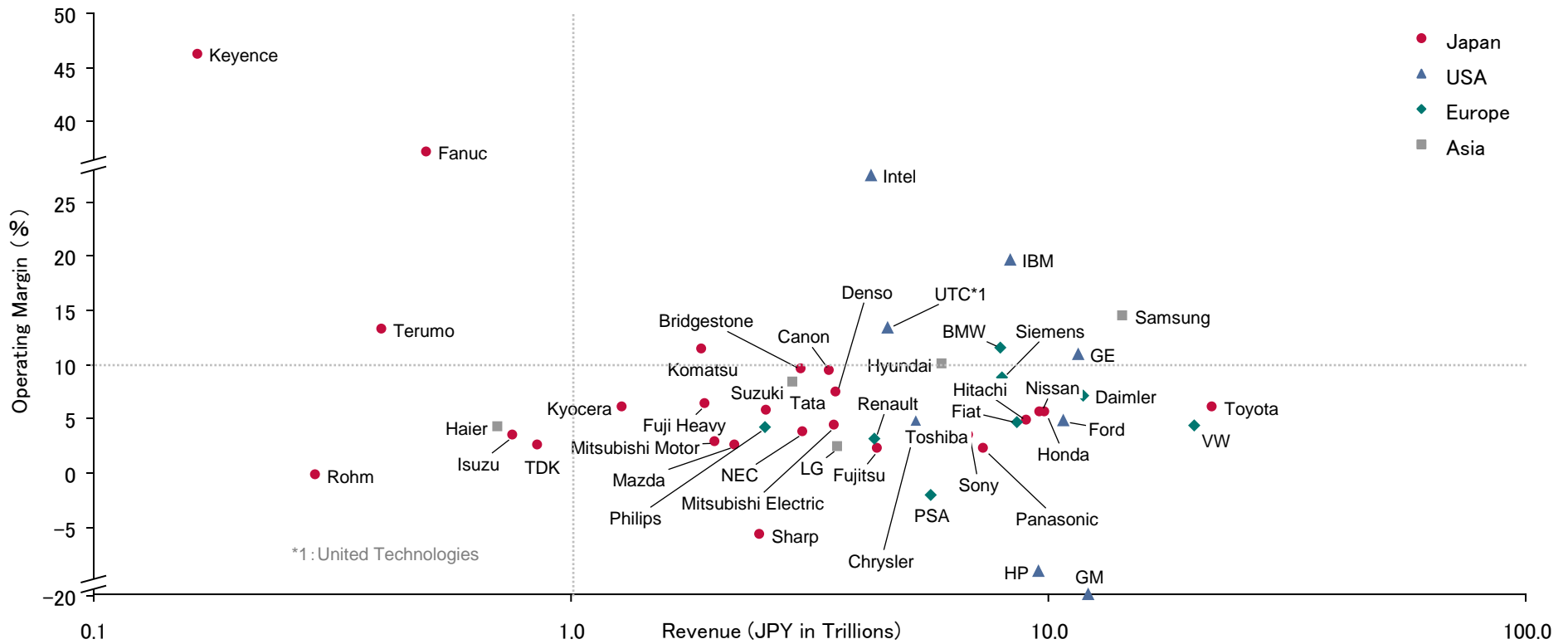


Problems Facing Japanese Companies



Relation between Business Scale and Profitability (Global - Miscellaneous)

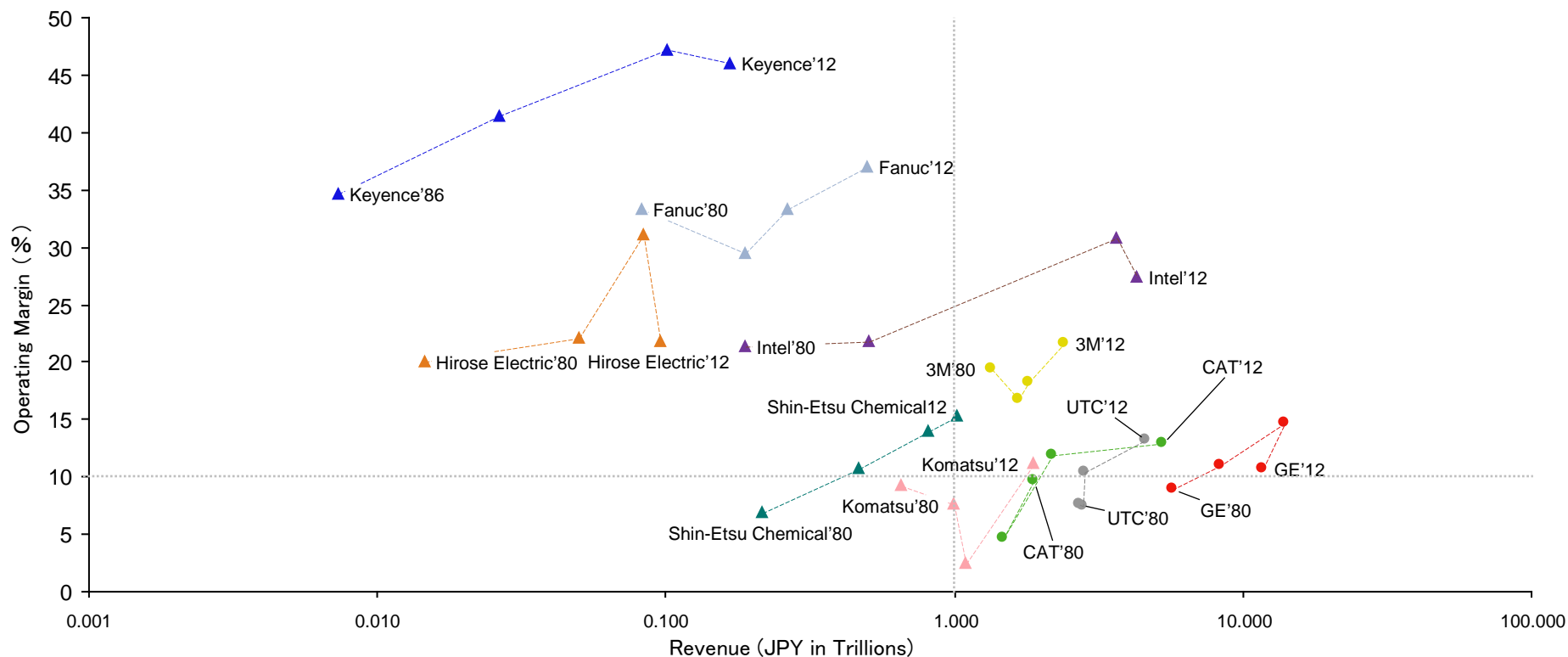
◆ Automotive OEM and Electronics Manufacturers + α (FY2012)



Global companies perform consistently in scale and profitability, while most of Japan, Inc. is inversely proportionate in these two aspects

Relation Between Business Scale and Profitability (Global – Various Sectors)

◆ Global players achieve both improvement scale and profitability (FY1980 – FY2012)

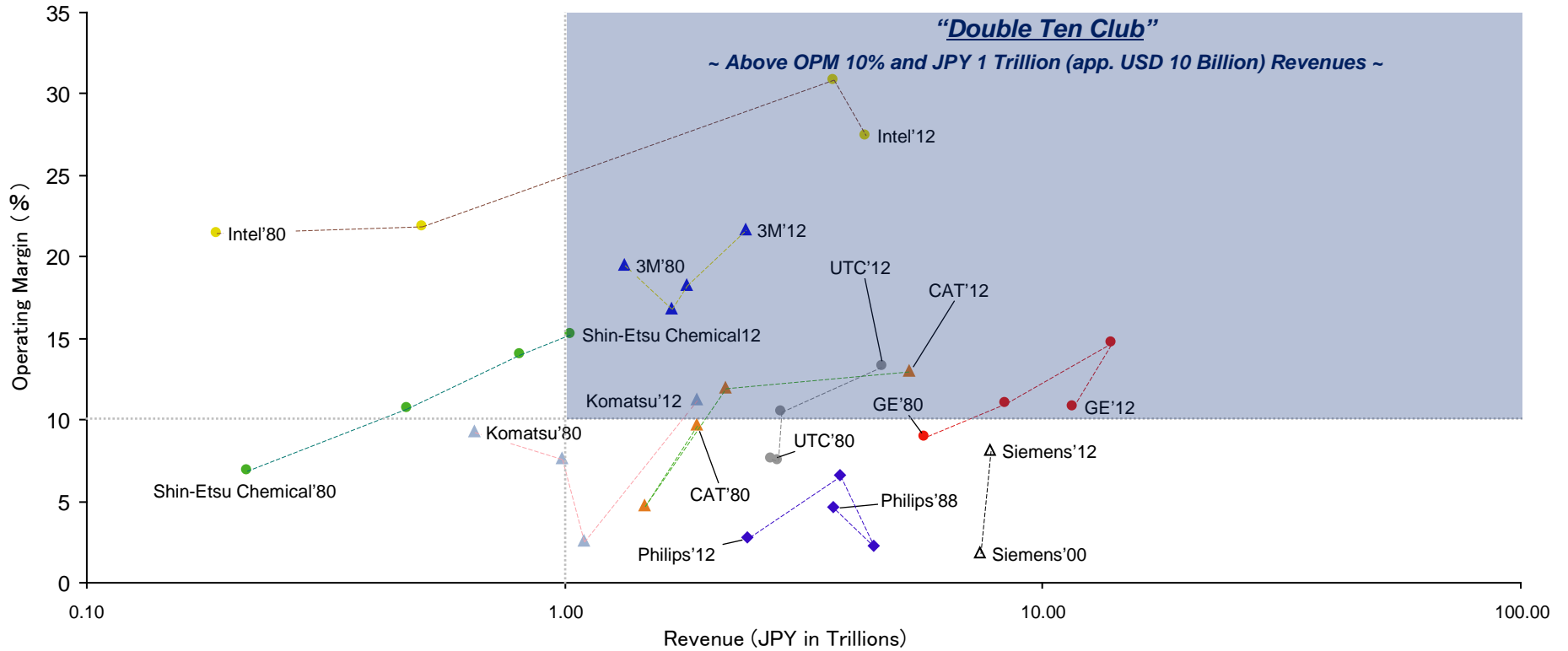


Through “choose and focus” strategy growth in revenues and profitability is achieved

Relation Between Business Scale and Profitability (Global – Various Sectors)

◆ Global players achieve both improvement scale and profitability (FY1980 – FY2012)

(Close up of companies with more than USD10 Billion in FY2012 revenues, Siemens and Philips added)

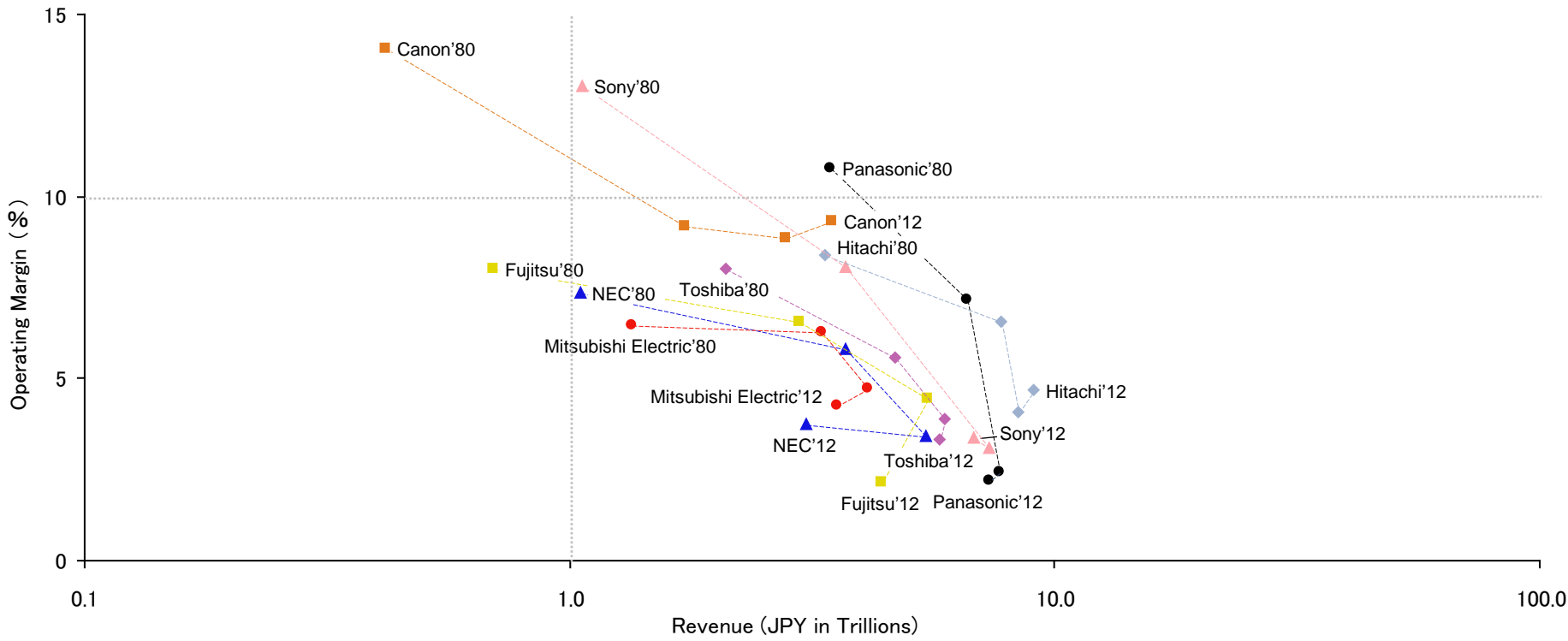


Through “choose and focus” strategy growth in revenues and profitability is achieved

Note (*): Siemens AG was publicly listed on 16/08/1999. Philips data available only since FY1988.

Relation between Business Scale and Profitability (Japan – Electronics)

◆ Japanese Electronics Manufacturers (FY1980 – FY2012)



While scale increases, profitability deteriorates

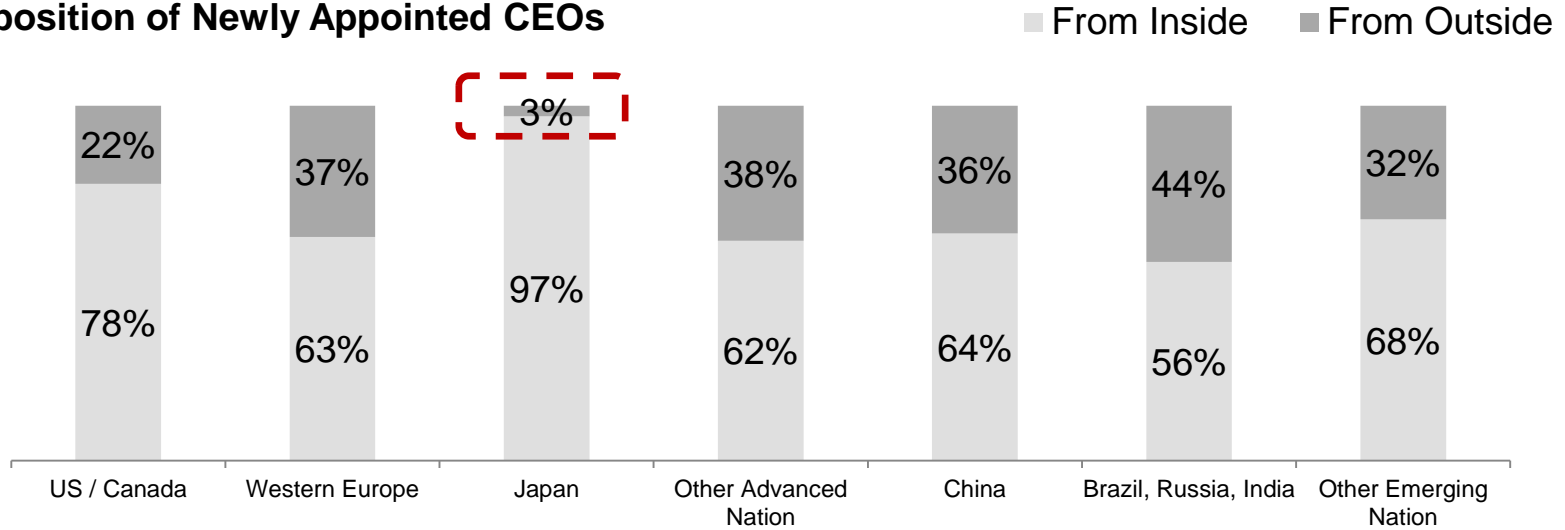
List of Small but Global No.1 Companies – Japanese Niche Champions

<i>Publicly listed equipment manufacturers (Arranged in OPM order)</i>			
Company Name	Market Share	Operating Income Margin (%)	Revenues (JPY MMs)
Fanuc Corporation	Factory automation equipment based on numerical controls and servo systems - Top share globally	41.2	538,492
Mani, Inc.	Medical and dental instruments – 90% of global market share	35.9	9,694
NSK (Nakanishi)	World top class dental products	32.3	22,266
Harmonic Drive Systems (HDS)	Mechatronic products and speed reducer technology for industrial robots – 50% of global market share	21.5	20,159
Hamamatsu Photonics	Photomultiplier tuber – 90% of global market share	21.4	101,858
Hirose Electric	High functionality connectors for mobile phones	20.6	94,790
Asahi Diamond Industrial	Wire saws for cutting silicon- 90% of market share	18.7	42,981
Nicera	Infrared sensors – 60% of market share	17.4	16,462
Makita Corporation	Electric power tool – global no. 2	16.4	295,711
Nidec-Read Corporation	Semiconductor package and printed circuit board inspection systems – global top market share	15.7	9,814
HOYA	Photo mask blanks - 80% of market share	15.1	360,673
Nidec Copal Corporation	Compact digital camera shutters - 70% of market share	14.4	29,119
Shimano	Bicycle components – global top market share	14.3	221,770
MARUWA	Alumina substrates for chip resistors – 40% of global market share	13.8	21,213
Horiba Group	Engine monitoring equipment – 80% of global market share	12.1	123,456
DISCO Corporation	Dancing saws – 70% of market share	11.9	89,241
Nidec Corporation	Small precision motors for HDD – 80% of market share	10.7	682,320
NGK Insulators	The only NAS battery system manufacturer	10.5	247,818
DAIICHISEIKO	Miniature coaxial connectors – global no.1	10.0	31,721
THK	Linear motion guides – 60% of market share	10.0	196,866
Murata Manufacturing	Ceramic condensers – global no.1	7.7	584,662
Ushio	Industrial lighting – global no.1	7.1	150,087

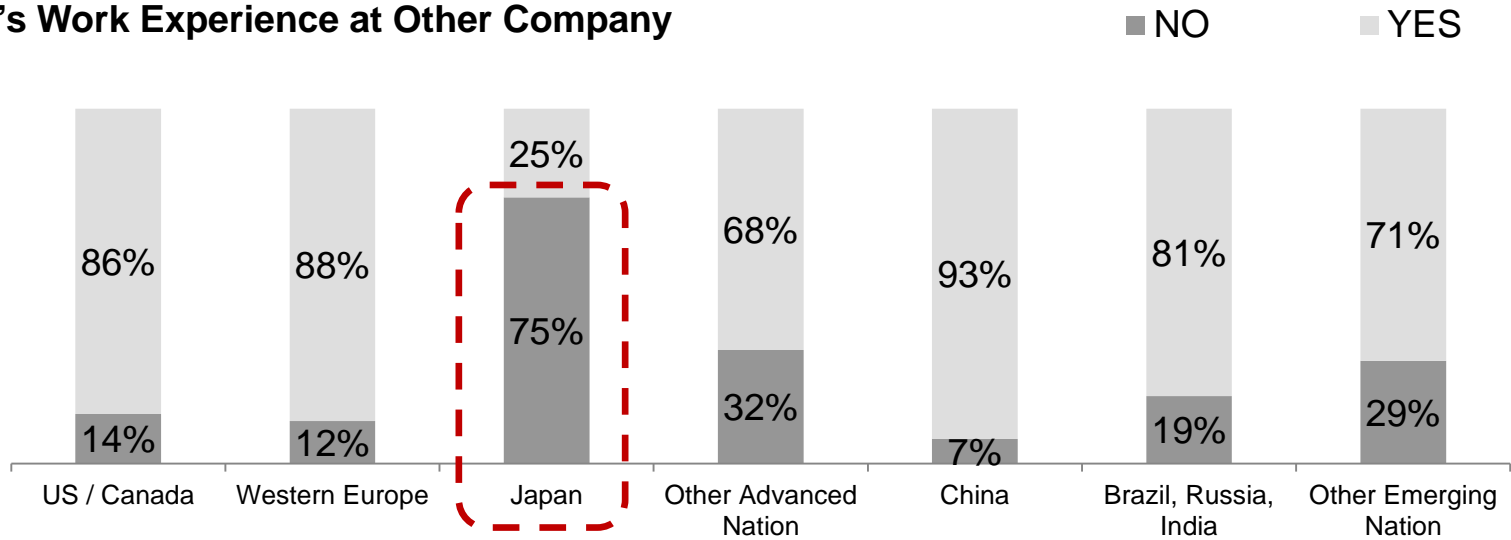
Source: (K. K. Toyama 2013)

Internal Rate of CEO Promotion

Composition of Newly Appointed CEOs

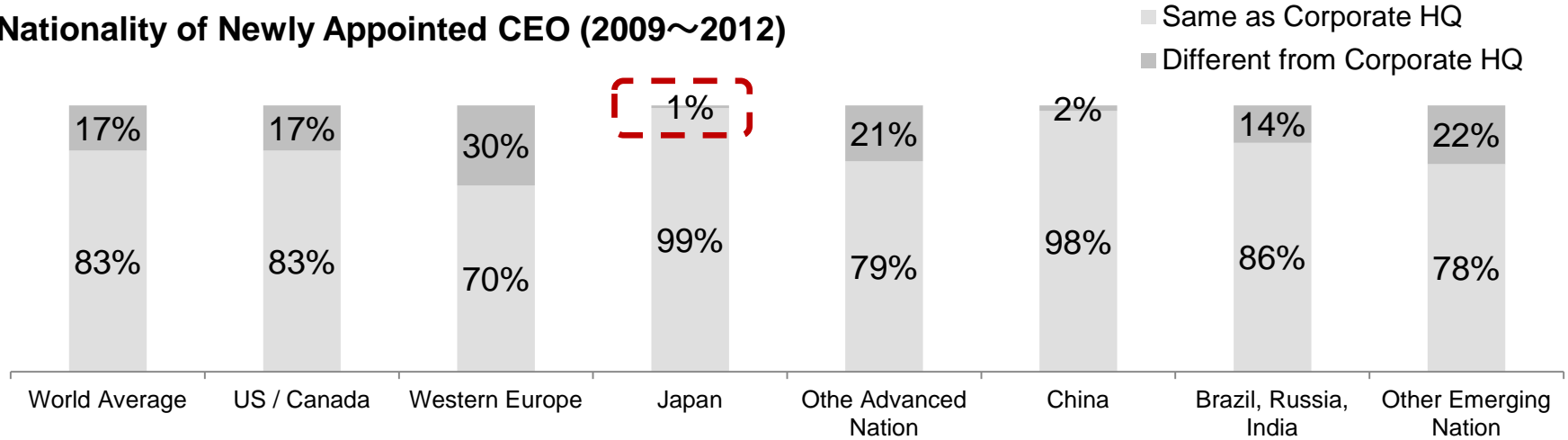


CEO's Work Experience at Other Company

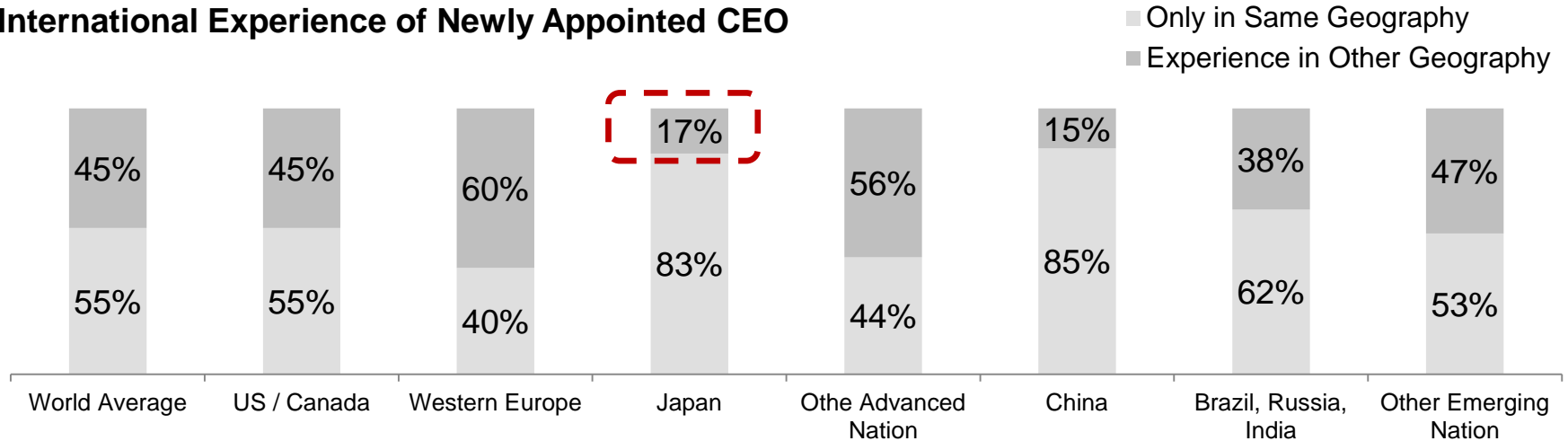


International Diversity of Management

Nationality of Newly Appointed CEO (2009~2012)



International Experience of Newly Appointed CEO



Board Member / Executive Management Diversity

- ◆ Women and foreigners are strongly underrepresented among Japanese corporate executives of leading firms

	TOSHIBA	GE	KAO	P&G	Unilever	Ajinomoto	Nestlé
Executives	36	17	28	16	15	35	13
of which Women	0	4	1	4	2	1	1
% of Women Executives	0%	24%	4%	25%	13%	3%	8%
of which Foreigners	0		1			3	9 (5 countries)
% of Foreigner Executives	0%		4%			9%	69%

End of Presentation

